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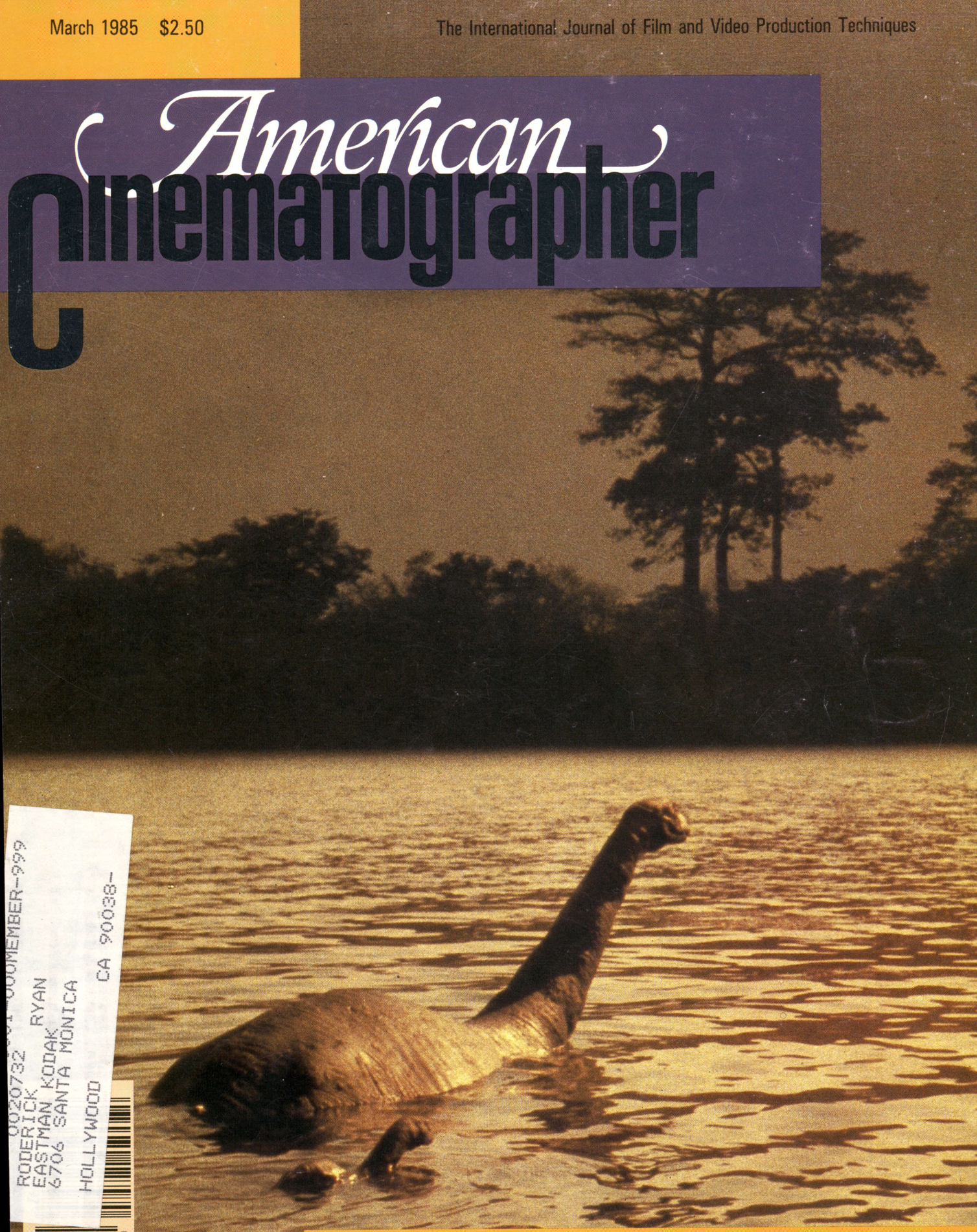
The International Journal of Film and Video Production Techniques

American Cinematographer



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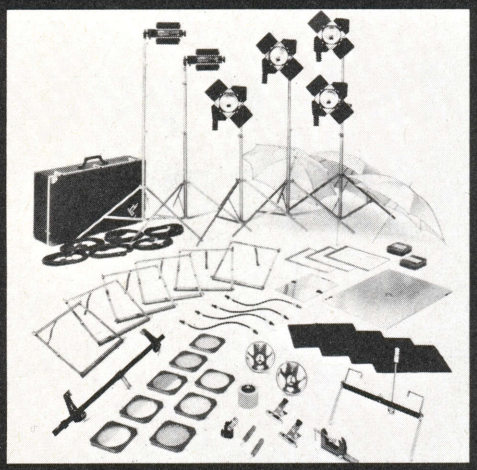

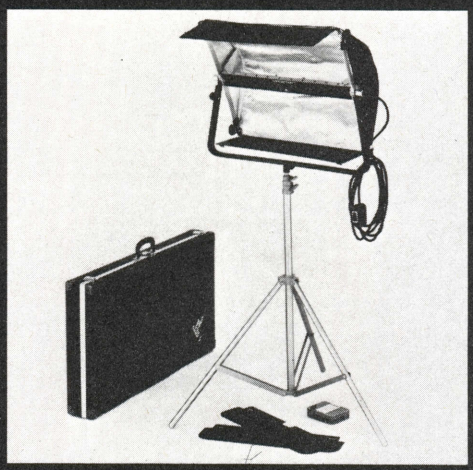

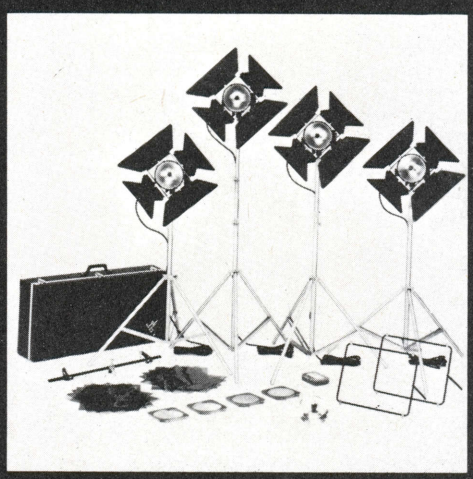

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The International Journal of Film and Video Production Techniques

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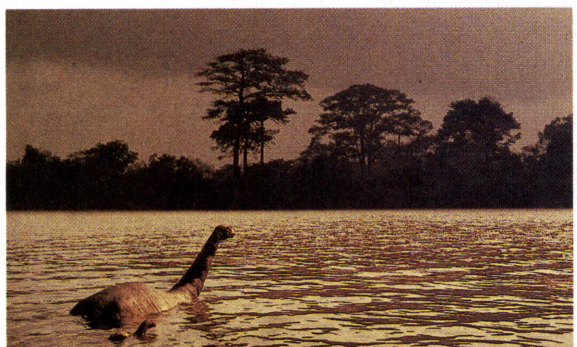
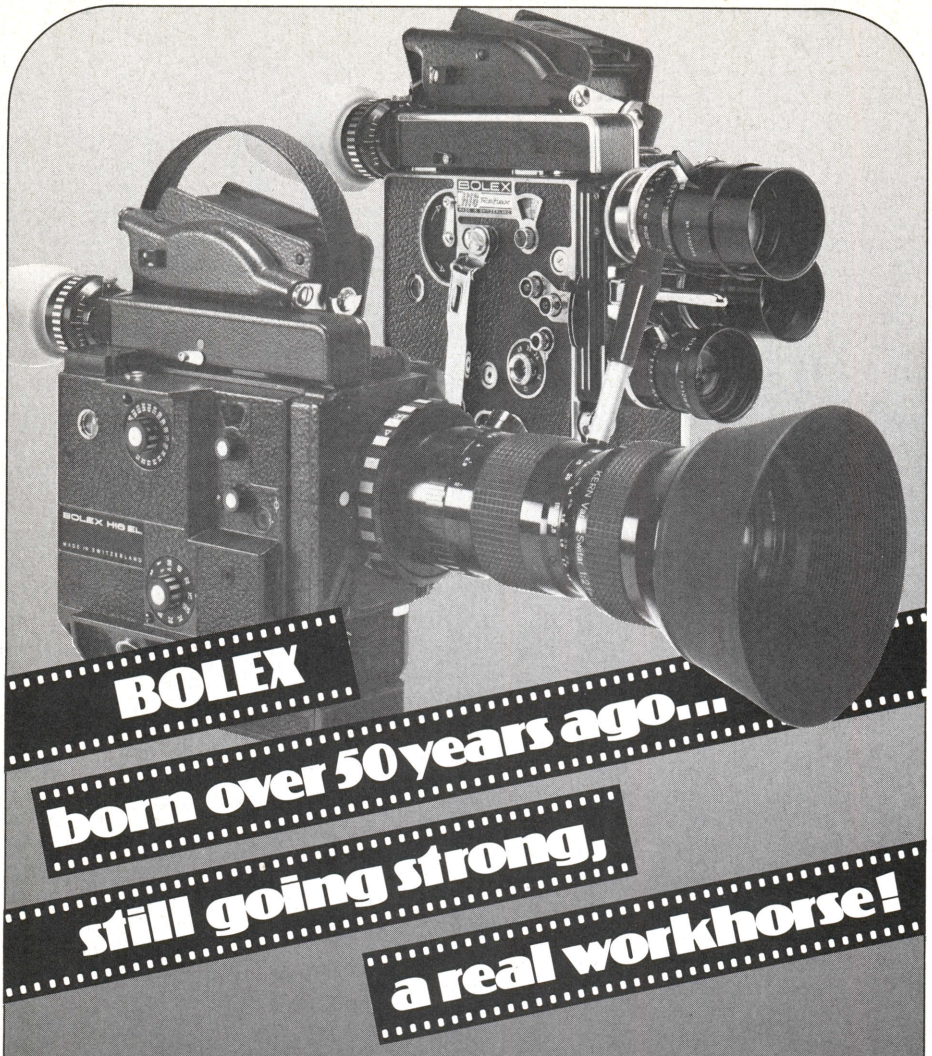


On Our Cover:
A mother brontosaurus a
her hatchling swim off to
their jungle home in *Bab*
filmed on location in
Africa by John Alcott.



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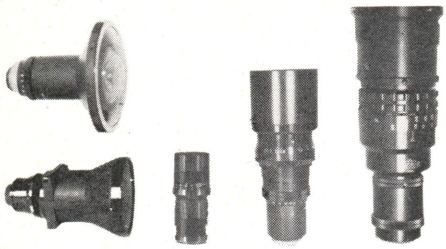

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Letters

Wolfman

Frank Taylor's article on makeup wizard Jack Pierce was enjoyable; I almost hesitate to make some corrections. In the 1941 *The Wolfman,* there was no head-on transformation of man into werewolf, as Taylor stated. Director George Waggner preferred instead to suggest the transformation with shots of Lon Chaney Jr.'s feet traversing the woods. Grisly head-on transformations came later in the sequels, the most remarkable occurring in *House of Dracula* (1945) as Chaney's eyeballs rolled in a moonlit jail cell. Also, these were not "stop-motion" shots but rather a series of articulate lap-dissolves.

Hand-tests were developed immediately in the darkroom and placed in the finder as lineup clips, allowing the cameraman to match the position of Chaney's eyes as he bristled during the various stages of makeup. A head brace insured stability. Effects department head John P. Fulton did not photograph these scenes before 1943—they were done by the regular DOP under the supervision of Fulton's optical foreman, David S. Horsley, ASC.

—Paul Mandell
New York, NY

Credit

I am a friend and supporter of Wilmer Butler ASC, having been responsible for a number of his better photographic achievements.

However, the Cinematographer should check the records on who was the director of photography on *Cuckoo's Nest.*

—Haskell Wexler, ASC
Malibu, CA

Wexler and Butler were both credited as directors of photography on One Flew Over the Cuckoo's Nest. *Both were nominated for Academy awards for the picture, according to records at the Academy of Motion Picture Arts and Sciences.*

The Roster

Congratulations on your recent articles about productions of yesteryear. I especially enjoyed the Karloff-Lugosi story on *The Black Cat*. Fascinating and brilliant.

I would also like to make comment on the recent attention being paid to the problems of getting into a union in your "Letters" column. Until recently I was a member of Local 644 (Cameramen) in New York City (whose parent union is the IATSE.) I would also like to state that I am an American citizen, fought for my country when called, pay my taxes, and am a law abiding person. Yet, because I was denied admittance into the "roster system" I was prohibited from shooting a feature film on a stage or nearby locations for any major studio in the city of Los Angeles.

In effect, all directors of photography who are not on the roster (no matter how talented or qualified) are prohibited from working in the largest motion picture producing area in the world. Can you imagine what General Motors and the government would do if the same roster system, of which they were not a part, applied to their company and therefore prohibited them from selling automobiles in the greater Los Angeles area?

At the risk of sounding ultra patriotic, a situation exists that is both oppressive and un-American.

—Richard E. Brooks
New York, NY

Oops

Your shot from the movie *2010* in your January 1985 issue (page 65) is upside-down and backwards. The Leonov should be on the left and so on.

—Anonymous
Chicago, IL

Thanks.

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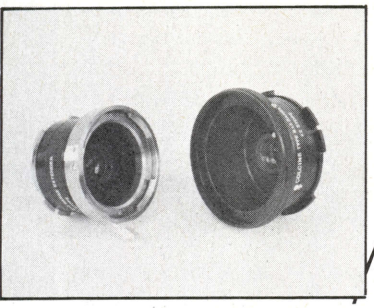

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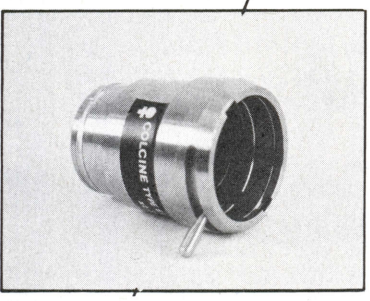

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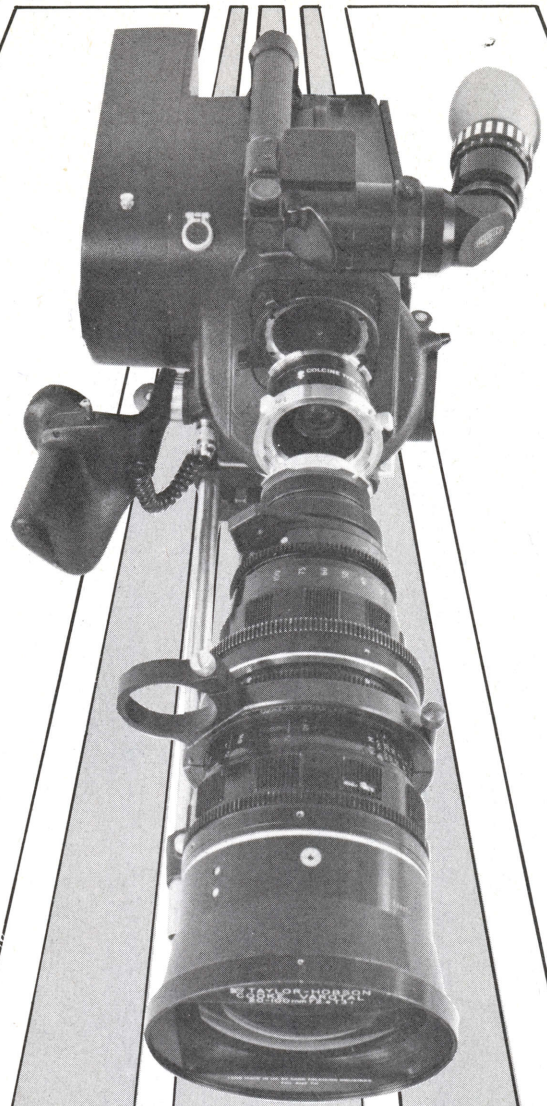

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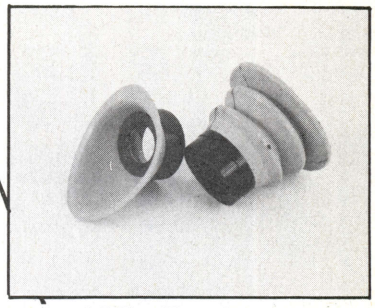

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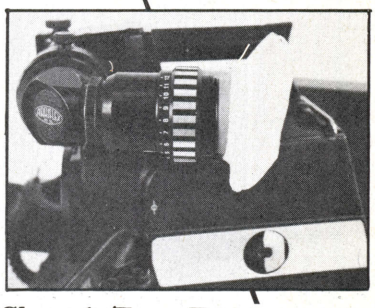

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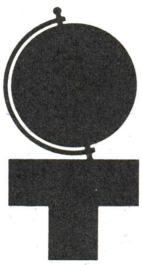

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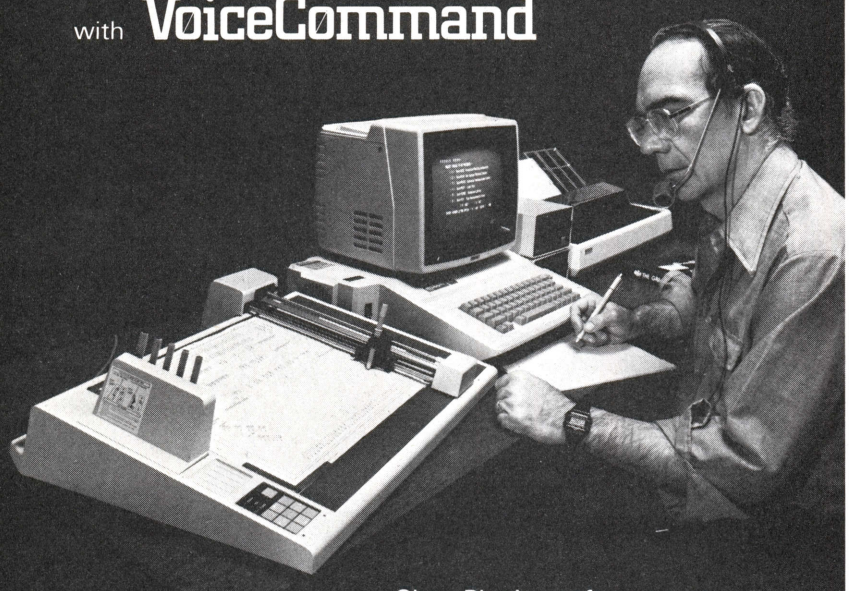

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3-D Techniques

I agree with most of Lenny Lipton's conclusions (October 1984 issue) on the poor quality of recent 3-D movies. But it must be said that a video-assist stereo viewfinder needs to be used with discretion, since 3-D images on a small monitor screen do not have the same visual effect as full-size images on a theatre screen.

Mr. Lipton must be corrected on one point, and that is his surmise that the idea of following convergence was originated by Julian Gunzberg on the Natural Vision pictures. This is certainly not correct, and I would imagine that everyone who has ever made a 3-D motion picture must have become aware of the need to adjust convergence during a moving-camera shot. After all, the convergence has to be set relative to the distance from the camera to the optical center of the scene to be reproduced; if we move in from a distant scene to a close scene, the convergence will normally have to be adjusted. This change of convergence is imperceptible to the audience, provided it is carried out (like a focus-pull), smoothly and simultaneously with the camera movement.

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This camera was described by Raymond Spottiswoode in the journal *Science and Film* (London) in 1956, but details have never been published in the United States. The camera is now safely held by the Science Museum in London.

—Charles W. Smith
Middlesex, England

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And this year at NAB, Sony announced a major breakthrough in cart machine technology with Betacart.™ A system

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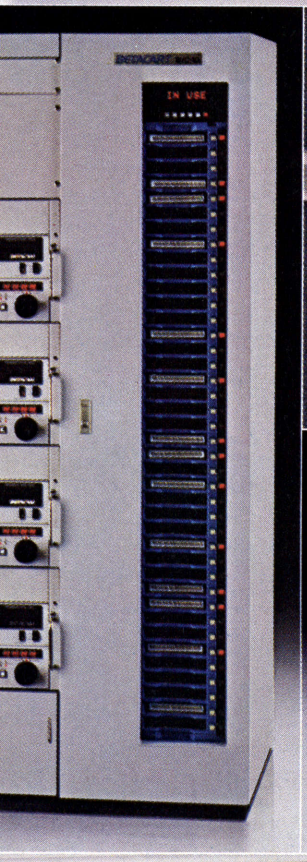

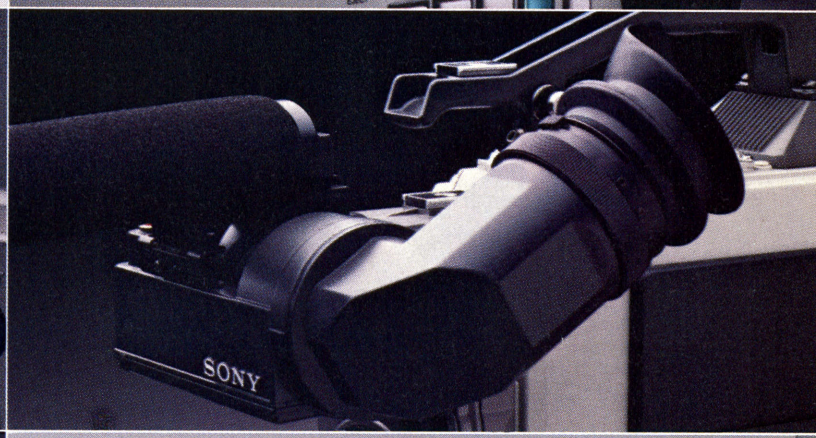

t demonstrated the Betacam format's strength beyond the wsroom, beyond the studio, and beyond field production.

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The Bookshelf

An engrossing autobiography, **The Light On Her Face** is the story of one of Hollywood's most respected directors of photography, Joseph Walker, ASC, as famous for his artistry in glamorizing beautiful actresses as for his creativity in the field of motion picture technique. With an assist from wife Juanita, Walker offers fascinating reminiscences about the making of *Lost Horizon* and *It Happened One Night* among his 160 films; his work with Frank Capra, Michael Curtiz, Joan Crawford, Clark Gable; and his inventions—zoom lens, fog laying method, soundproof camera blimp *(ASC Press, Box 2230, Hollywood, CA 90078; $19.95).*

Fred Lawrence Guiles, in his perceptive and documented biography of Marilyn Monroe, **Legend,** states plainly what had only been whispered heretofore, namely that both John and Robert Kennedy had had affairs with the star. Guiles also authenticates that suicide, and not murder, ended her life. This last fact is confirmed in former L.A. County Medical Examiner Thomas J. Noguchi's memoir, **Coroner,** among his recollections of other celebrated cases *Stein & Day, New York, $17.95; Pocket Books, New York, $3.50).*

Donald C. Willis, in **Horror and Science Fiction Films III,** covers 760 movies released in 1982/83 with cast-&-credits, synopses, and other relevant data. **The House of Horror** by Allen Eyles et al. is a detailed story of Hammer Films, the British specialists of the genre who generally added an element of sex to spice up the scary proceedings *(Scarecrow, Metuchen NJ; $25; Ungar, New York, $8.95).*

A comprehensive 2-vol. reference set, Larry Langman's **Guide to American Screenwriters** carries, in Vol. 1, names and credits of nearly 5,000 scenarists of features, full length documentaries and animated films from 1929 to 1982. Vol. 2 lists some 20,000 movies, including writers' names and year of release *(Garland, New York, $88/set).*

In **Fast and Furious,** Mark Thomas McGee narrates the story of American International Pictures, whose floridly titled horror and teenage exploitation movies successfully catered to popular low brow tastes. Complete filmographies of AIP's 1959–80 production are compiled by Robert Ottoson in **American International Pictures,** providing cast-&-credits, synopses and critical comments *(McFarland, Jefferson, NC, $17.95; Garland, New York, $25).*

Interviews with 22 film personalities, taped by critic Judith Crist and transcribed in **Take 22,** reflect the professional and personal problems of such creative artists as Paul Newman and Joanne Woodward, Blake Edwards and Julie Andrews, Bette Davis, Steven Spielberg, Sydney Pollack, Mark Rydell and Guy Hamilton *(Viking, New York, $25).*

The audience's responsibility in the evaluation and enjoyment of art, and specifically of film, is discussed by Richard L. Stromgren and Martin F. Norden in **Movies: A Language of Light,** a detailed analysis of films' technical nature and informative function *(Prentice-Hall, Englewood Cliffs, NJ; $16.95).*

Aspects of French culture are surveyed in two discerning studies; **French Cinema of the Occupation and Resistance** by André Bazin and **Jean Cocteau and the French Scene** by Dore Ashton et al. Bazin analyzes French movie production under the Nazis, stressing its achievements despite highly adverse conditions. Cocteau, an early multimedia artist, was able to function during that era because the irrelevance of his scenarios to social

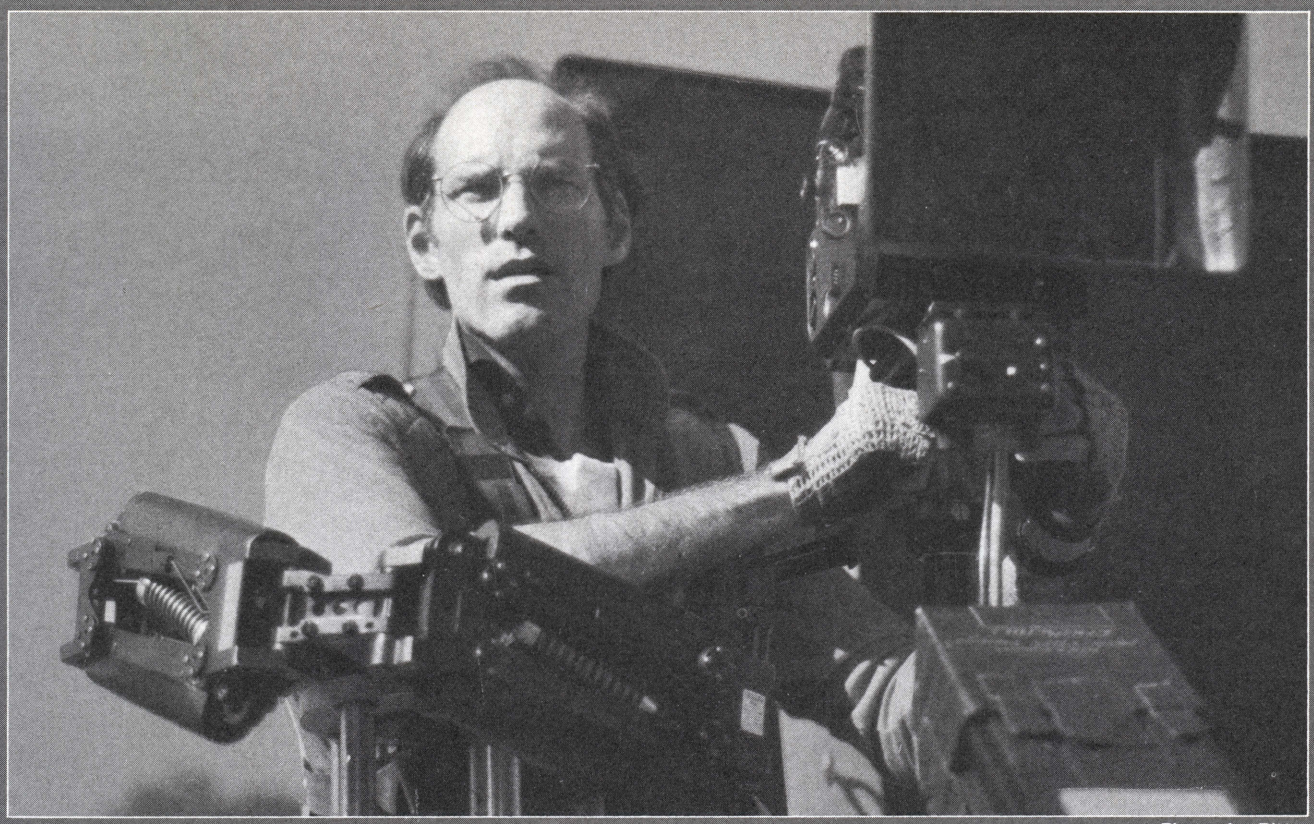

Photo: Joe Ritter

Feature Films

Wolfen
Diner
Taps
Porky's
Risky Business
The Right Stuff
King of Comedy
Cotton Club
Muppets Take Manhattan
Falling in Love
Ghost Busters
Birdy
Bad Boys
Night Shift
Purple Rain
Windy City

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reality fit the mood of the times *(Ungar, New York, $8.95; Abbeville, New York, $19.95).*

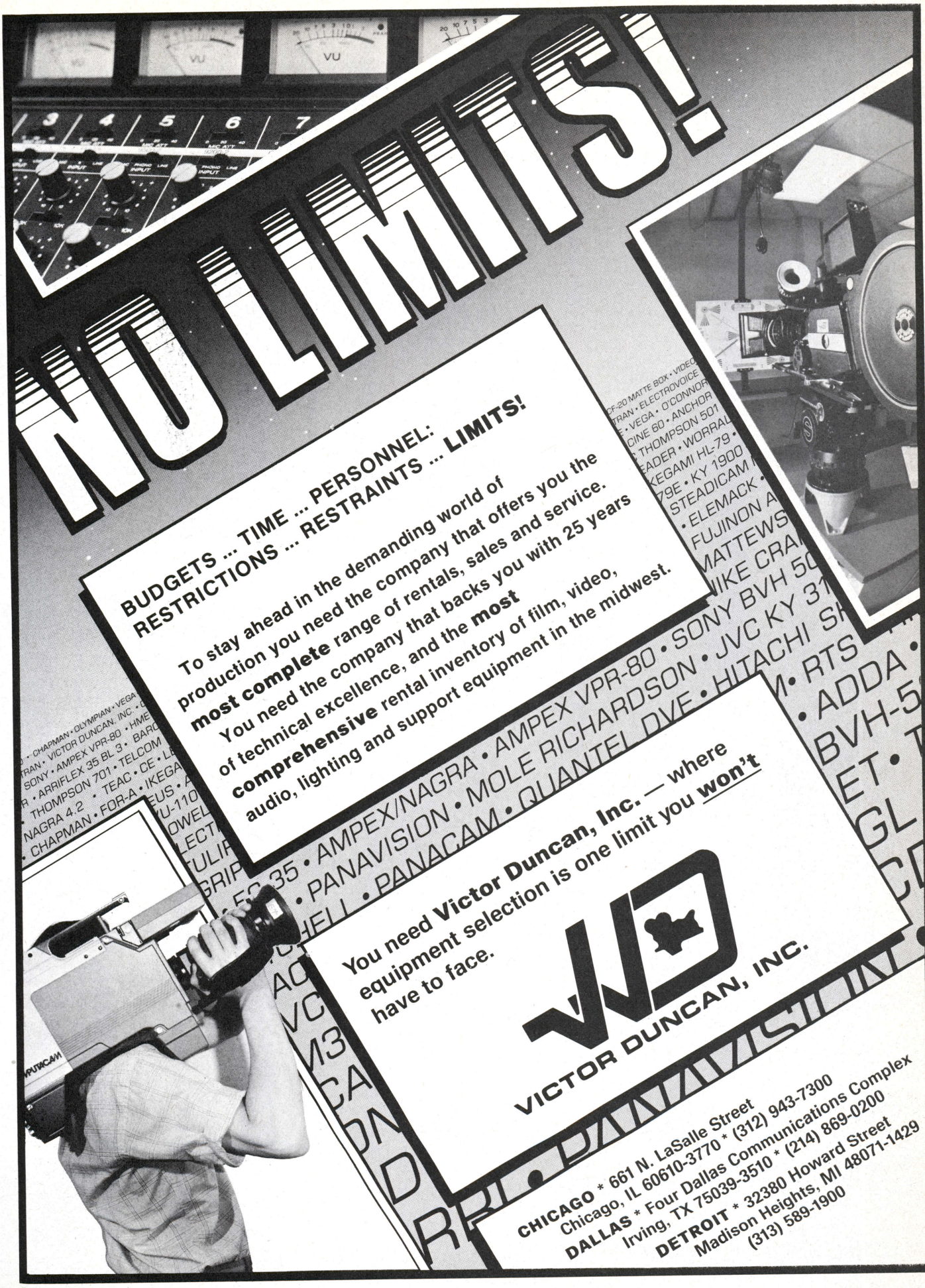
Three new biographies have been added to the popular Proteus series: **Warren Beatty** by John Kercher, **Bogart** by Terence Pettigrew, and **Mel Brooks and the Spoof Movie** by Nick Smurthwaite and Paul Gelder. Well researched, engagingly written and profusely illustrated, they combine fact, anecdote and opinion as they chronicle these stars' careers and private lives *(Proteus, New York, $10.95, $8.95, $10.95).*

In **Diane Arbus; Magazine Work,** portraits by the unconventional camera artist reflect changing styles in photojournalism induced by the rebellious spirit of the 60s. They depict Mae West, Lillian and Dorothy Gish, Marcello Mastroiani and stripper Blaze Starr with an unsparing, deglamorizing realism that found its counterpart in the period's "beat" literature and "film noir" genre *(Aperture, New York, $35).*

Dudley Andrew's thoughtful study, **Film in the Aura of Art,** considers a group of notable movies linked by a common concern for stylistic values, and defines their requirements for audience appreciation *(Princeton U. Press, Princeton, NJ; $25).*

In **Cinema and Sentiment,** Charles Affron argues that the generally disdained "sentimental" films have a degree of validity when their melodramatic content corresponds to the medium's intrinsically emotional nature *(U. of Chicago Press, Chicago, $20).*

Conversant with magickal (sic) perspectives and practices, Christine Carmine, in **Celluloid Warrior,** fits her concept of magick (sic) to various characters, traits and episodes of the *Star War* series *(Thinking Gnome Press, San Francisco, $11.95 + $1 handling).*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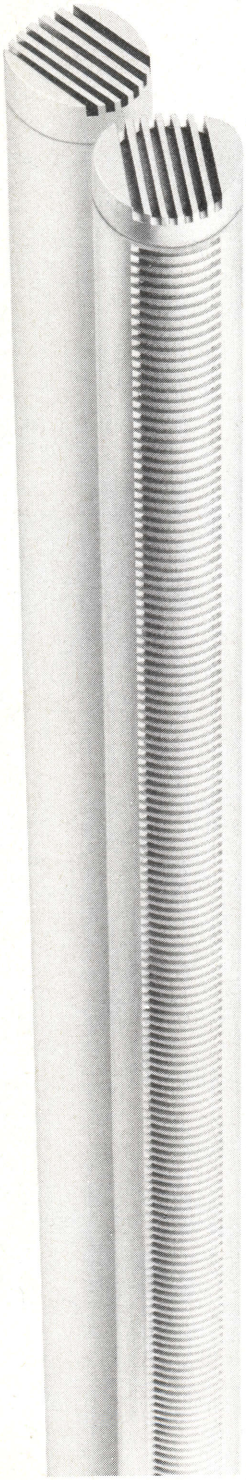

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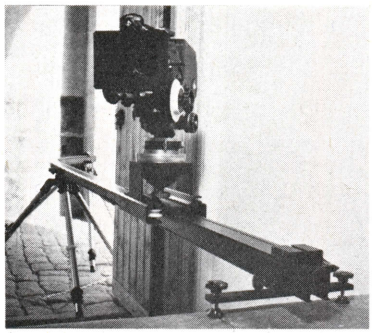

Portable Tracking System

One of the items causing great interest among professionals is a new portable tracking system for film and video cameras called CAM-RAIL.

CAM-RAIL is easily and quickly assembled; one man can put it together within a few minutes. The kit fits into most estate cars and is light enough to accompany teams by air. Its moderate price and extreme flexibility means that tracking shots now can be included even in the tightest production budget.

The system comprises various lengths of straight and curved monorails of extruded, torsionally stiff aluminium alloy. There are supporting tripods and many other useful accessories such as table supports, overhead attachments for hanging cameras etc., as well as a variable speed 12V DC motor with remote control.

The trolley runs smoothly and silently along the rail keeping the camera in a secure position. Hydroheads of 100 and 150mm fit the trolley bowl. Natural obstacles and uneven surfaces are no longer problems for tracking shots. The camera can run over rugged terrain, water, through long grass or be suspended from the rail to give even further variation. As the track is supported by tripods, time-consuming ground levelling work is quite unnecessary. This new Swedish-made tracking system can also be of invaluable help in the packshot studio and for various trick applications.

For further information, contact: Zellan Enterprises, 250 57th St., New York, NY 10019.

Stunt Jel

Trilling Resources, Ltd., the manufacturers of Water-Jel fire safety products, has introduced Stunt Jel, designed to help stunt men and women safely perform feats involving exposure to dangerous flames and heat.

Spread properly over those parts of the body to be exposed to fire, stunt jel offers protection from the flames and from temperatures as high as 2800 degrees Fahrenheit.

The jel's effectiveness has been proved in tests by stunt men in the United States and Canada. It is available for stunt drivers, motion picture and television stunt performers and daredevil acts. Available in one- and five-gallon canisters, stunt jel is a special thixotropic fluid that can be used

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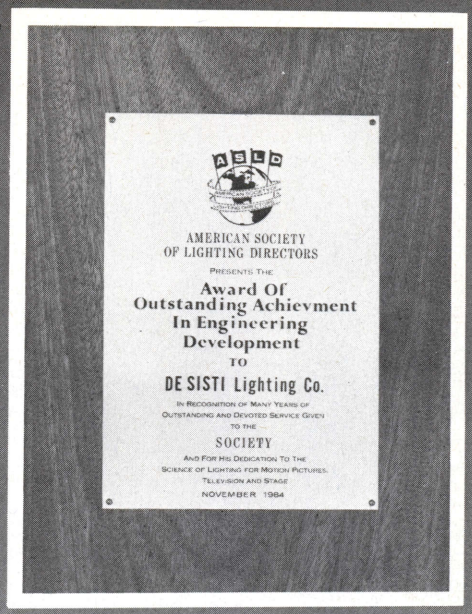

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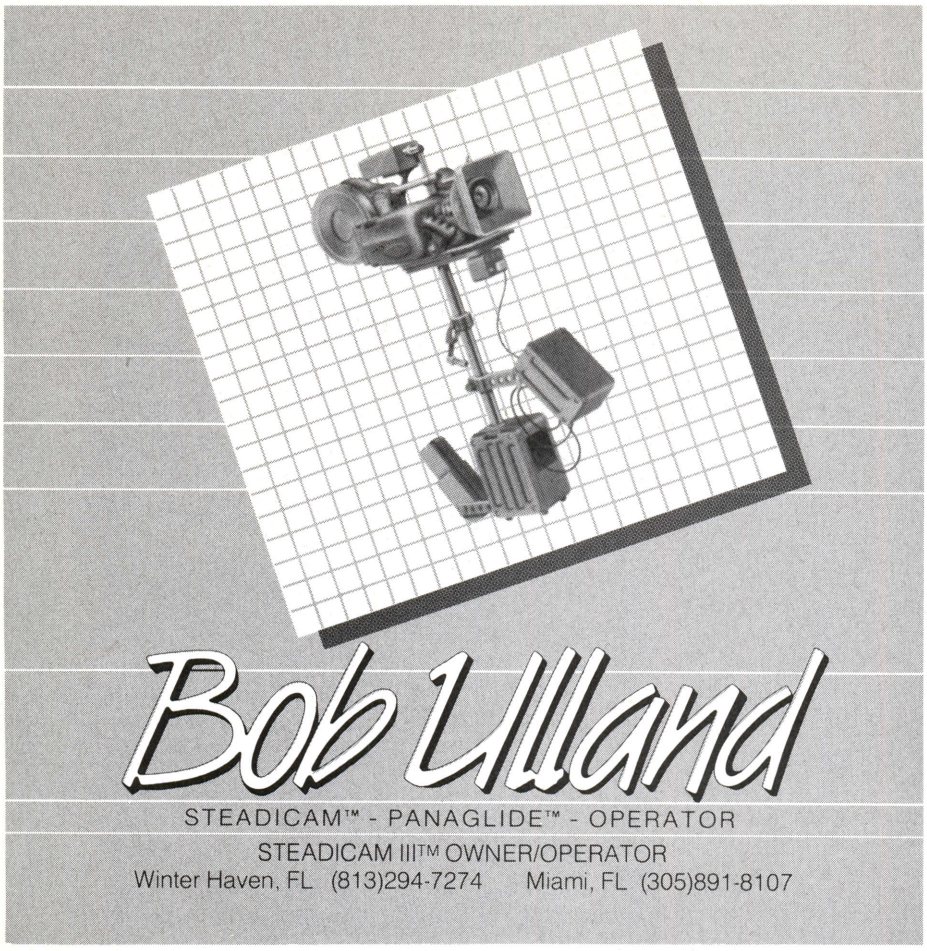
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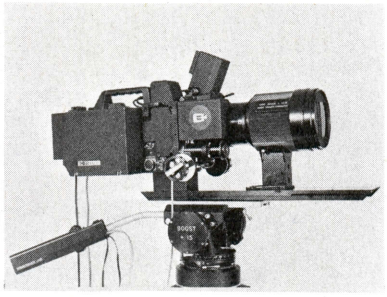

New J20 Zoom Lens

Cinema Products Corporation announces the introduction of the first 20X zoom lens for electronic cinematography—the CP/Canon J20 8.5–170mm zoom lens (maximum aperture: T1.9).

Custom-modified by Cinema Products to complement the EC-35 high-performance video camera system, the new CP/Canon J20 zoom lens (with fixed flange depth set for the EC-35 camera) offers outstanding quality at a reasonable price. In addition to its versatile focal length, this lens offers interchangeability with Canon's series of EC-35 prime lenses for electronic cinematography.

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For further information, contact: Cinema Products Corp., 2037 Granville Avenue, Los Angeles, CA 90025. Tel: (213) 478-0711 or (213) 477-1971.

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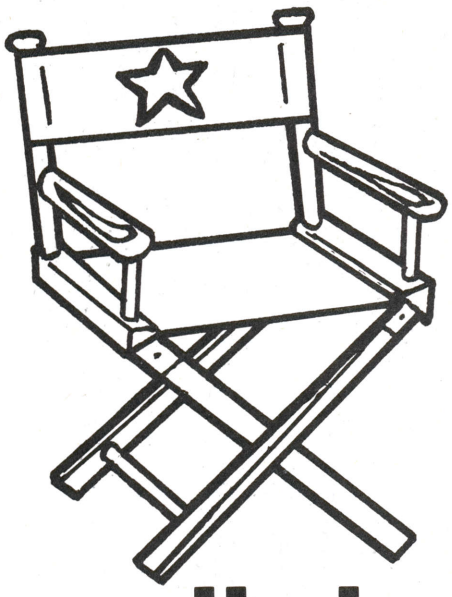

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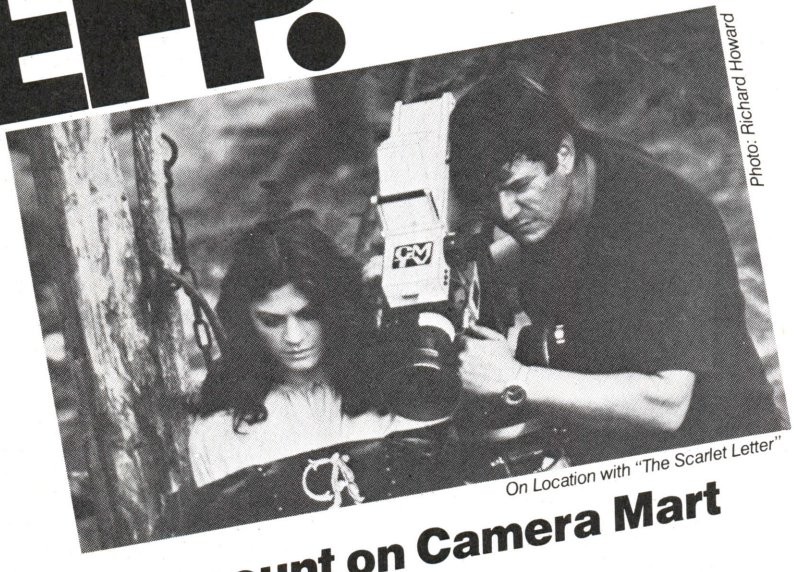

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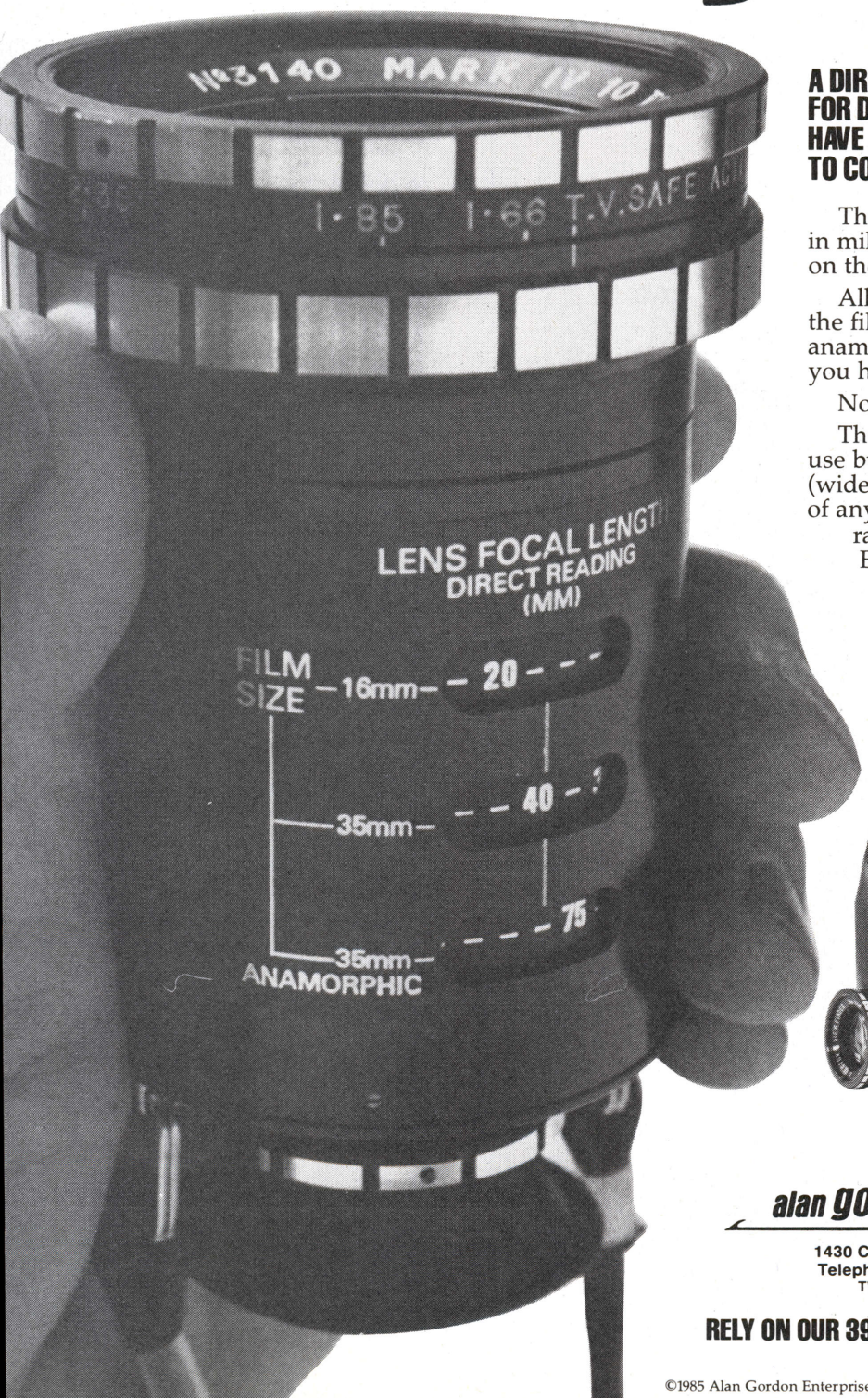

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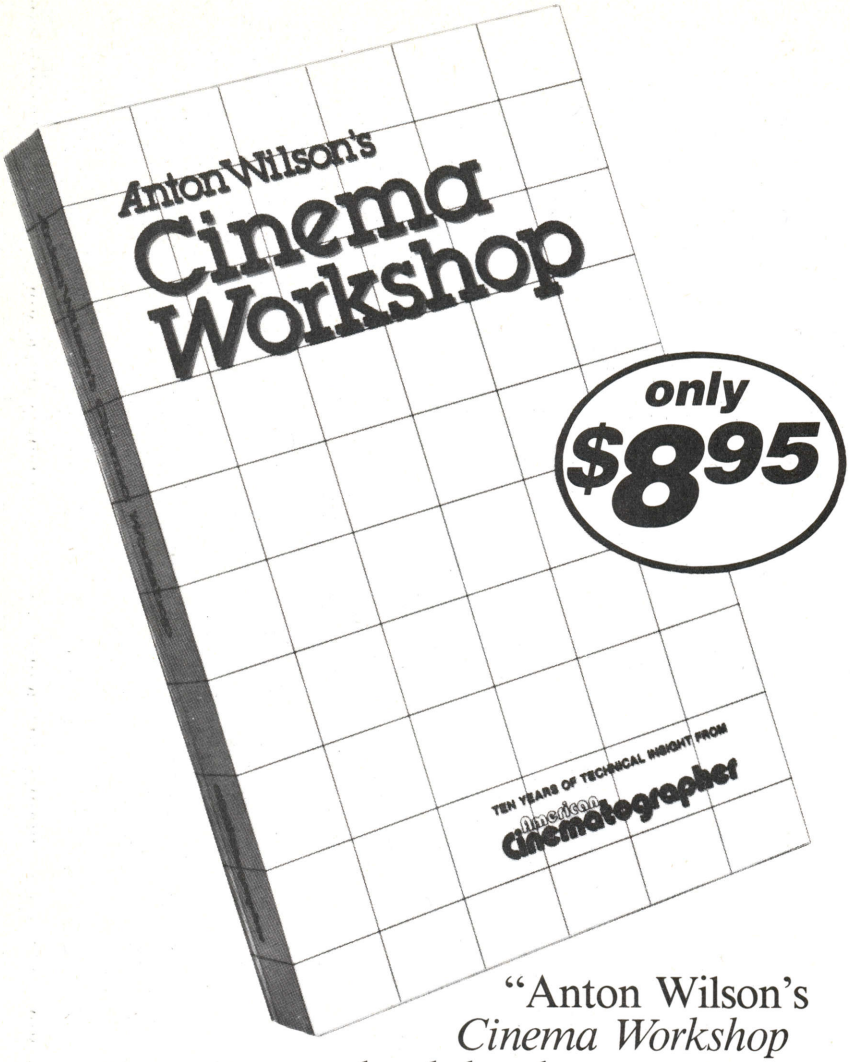

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Miniaturization of frequency synthesis components is the key factor in the new VHF design. Frequency synthesis eliminates the need for a large equipment inventory to obtain reliable wireless operation. Each microphone transmitter in the system is capable of operating on any of 48 separate frequencies; the system's receivers are equipped to handle all 168 channels in the assigned band.

The major components of the new system are the WRT-210 handheld microphone transmitter, the WRT-220 bodypack transmitter (with supplied lavalier microphone), and the WRR-210 and WRR-220 receivers. The frequency range of each transmitter covers two adjacent television channels or 48 individual transmitting frequencies. Thus only four transmitters are needed to cover the entire range between 174 and 216 MHz.

The new VHF system also offers the choice of diversity reception. When wireless microphones must operate in confined spaces, complications may arise from waveform reflections. The combination of direct waves and reflected waves causes phase cancellation and loss of signal. By utilizing two tuning sections on the same frequency and a "smart" switcher that samples both inputs, the WRR-220 receiver is able to furnish uninterrupted transmission. The Sony system employs true space diversity with two tuners each fed by its own antenn. The diversity circuit automatically selects the stronger of the two incoming signals or mixes them to maintain stable reception.

For more information, contact: Sony Audio Division, Sony Drive, Park Ridge, NJ 07656.

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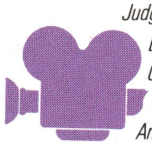
NARRATIVE FILM

Finished 16mm film. $4,500 awarded in scholarships. First place winner receives a new Nissan Sentra. SPONSORED BY AMBLIN ENTERTAINMENT INC. Board of Judges: Joe Dante, Nina Foch, Michael Hausman, Randal Kleiser, Steven Lisberger.

DOCUMENTARY FILM

Finished 16mm film. $4,500 awarded in scholarships. First place winner receives a new Nissan Sentra. SPONSORED BY HOME BOX OFFICE. Board of Judges: Saul Bass, Ellen Hovde, Charles Lippincott, Humberto Rivera, Amalie Rothschild.



ANIMATED/ EXPERIMENTAL FILM

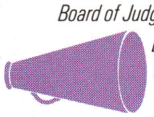
Finished 16mm film. $4,500 awarded in scholarships. First place winner receives a new Nissan Sentra. SPONSORED BY UNIVERSAL PICTURES. Board of Judges: John Canemaker, Ed Hansen, Faith Hubley, Chuck Jones, Jay Sarbry.

SCREENWRITING

Original feature-length screenplays. $4,500 awarded in scholarships. First place winner receives a new Nissan Sentra. SPONSORED BY LORIMAR. Board of Judges: Marisa Berke, Syd Field, Anne Kramer, Bonnie Raskin, Sy Salkowitz.

SOUND ACHIEVEMENT

Finished 16mm film. $1,000 scholarship. SPONSORED BY DOLBY LABORATORIES INC. Board of Judges: Jim Corbett, Donald O. Mitchell, Frank Warner.



FILM EDITING

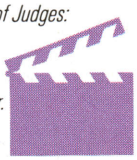
Finished 16mm film. $1,000 scholarship. SPONSORED BY BENIHANA OF TOKYO, INC. Board of Judges: Lynzee Klingman, Carol Littleton, Richard Marks.

CINEMATOGRAPHY

Finished 16mm film. $1,000 scholarship. SPONSORED BY COLUMBIA PICTURES. Board of Judges: John Bailey, William A. Fraker, A.S.C., Ray Villalobos.

WOMEN IN FILM FOUNDATION AWARD

Finished 16mm film or feature-length screenplay. SPONSORED BY ORION PICTURES. Board of Judges: Judy James, Ilene Kahn, Lin Oliver, Margot Winchester.



INSTITUTIONAL AWARDS

The corresponding college or university of the first place winners in the three filmmaking categories will receive $1,000 in Eastman motion picture film and video tape from EASTMAN KODAK COMPANY for their film department's use.

PREMIERE AND AWARD CEREMONY

All winners will be flown, expenses paid, to Los Angeles for the FOCUS Premiere and Award Ceremony, to be held at the Directors Guild Theatre September 5, 1985. Accommodations will be provided by the SHERATON PREMIERE HOTEL in Universal City.

COMPETITION DEADLINE: April 19, 1985

Get a complete set of rules from your English, Film or Communications Department. Or write to: FOCUS, 1140 Avenue of the Americas, New York, New York 10036.

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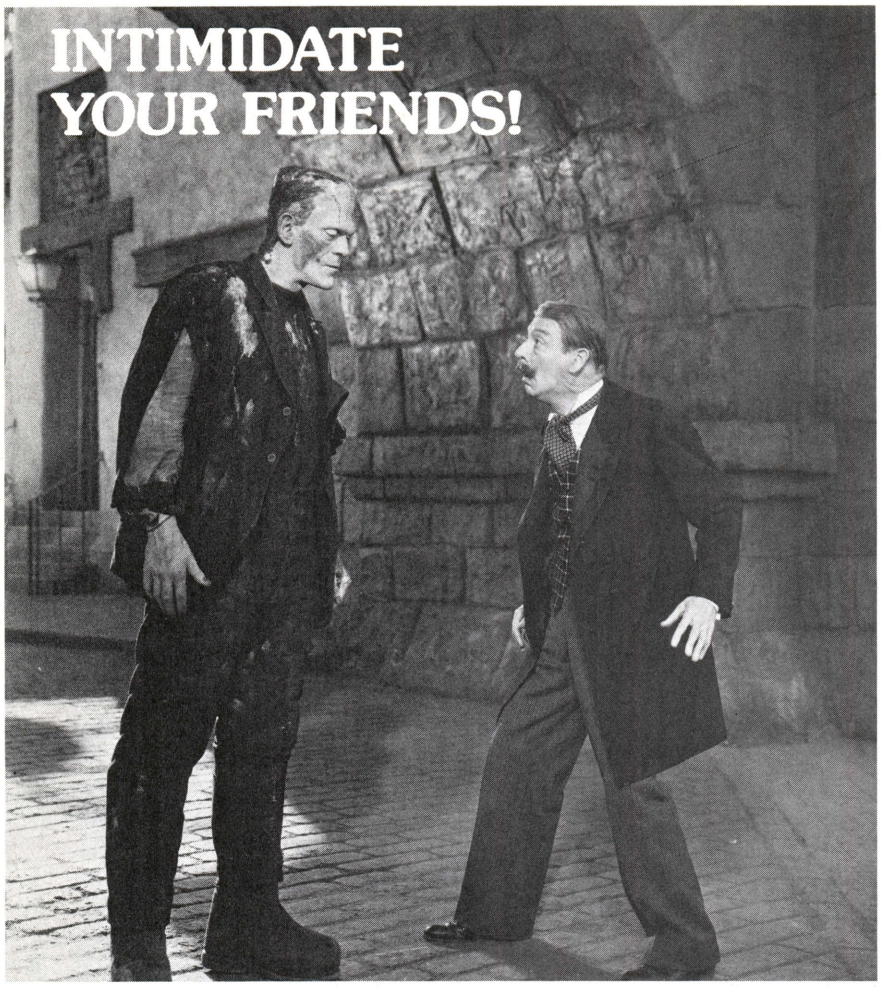

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March

March 3–8, 1985
Audio Visual Institute
Bloomington, Ind.
Seminar
ICIA Training Dept.
3150 Spring St.
Fairfax, VA 22031

March 17, 1985
Academy of Motion Picture Arts & Sciences
Scientific or Techincal Awards
Los Angeles
8949 Wilshire Blvd.
Beverly Hills, CA 90211 (213) 278-8990

March 17–20, 1985
Illuminating Engineering Society of North America
New York City
Symposium on Theater, Television and Film
Lighting (Show Light '85)
133 West 19th Street
New York, NY 10011 (914) 937-1300

March 25, 1985
Academy of Motion Picture Arts & Sciences
Los Angeles
57th Annual Academy Awards Presentation
8949 Wilshire Blvd.
Beverly Hills, CA 90211

April

April 14–18, 1985
National Association of Broadcasters Annual Convention
Las Vegas,
1171 N. Street
Washington DC 20036 (202) 293-3500

April 14–18, 1985
National Computer Graphics Assn.
Dallas, Tex.
Computer Graphics '85
8401 Arlington Blvd., Suite 601
Fairfax, VA 22031

April 22–25, 1985
Audio Visual Exhibition
London, England
British Information Services
845 3rd Ave.
New York, NY 10022

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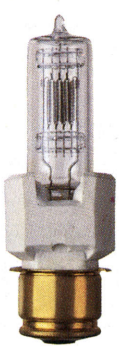

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Audio Visual Management Assoc. National Conference
San Diego, California
Richard Joy
Box 821
Royal Oak, MI 48068 (313) 549-6582

May

May 12–16, 1985

Society of Photographic Scientists & Engineers
38th Annual Conference
Atlantic City, NJ
7003 Kilworth Lane
Springfield, VA 22151

May 14–19, 1985

International Telecommunication Union
Singapore
Asia Telecom 85 Conference
Place des Nations, CH-1211
Geneva 20, Switzerland

May 16–17, 1985

Motion Picture & Television Engineering Society of Japan
17th Equipment Exhibition
Science Museum, Tokyo
Sankel Bldg. Annex 1-7-2, Otemachi,
Chiyoda-ku, Tokyo 100

May 18–19, 1985

Tahoe Film & Video Workshops
Cinematography & Lighting, Special Effects
Dallas
Box 969 AC
Truckee, CA 95734 (916) 587-4500

May 19–22, 1985

4th International Conference on Television Drama
Michigan State University
East Lansing, MI (517) 355-4714

May 19–23, 1985

Society for Technical Communication
Houston, Texas
Audiovisual Conference & Competition
332 Iowa Court
Ridgecrest, CA 93555 (202) 737-0035

May 20–23, 1985

Los Angeles ITVA
Videoshow and Video Production Conference
Long Beach, CA
Lisa Welp, 51 Sugar Hollow Road,
Danbury, CT 06810 (203) 743-2120

May 25–26, 1985

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Cinematography & Lighting, Special Effects
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Truckee, CA 95734 (916) 587-4500

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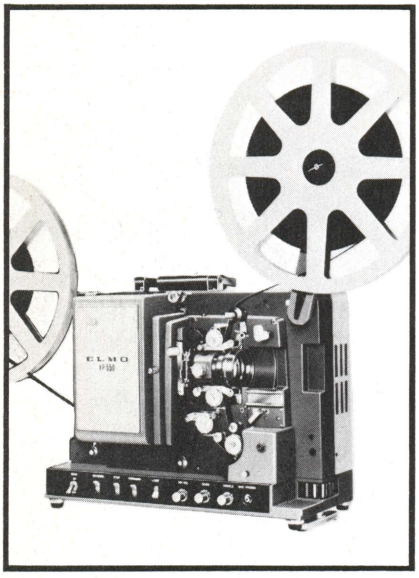

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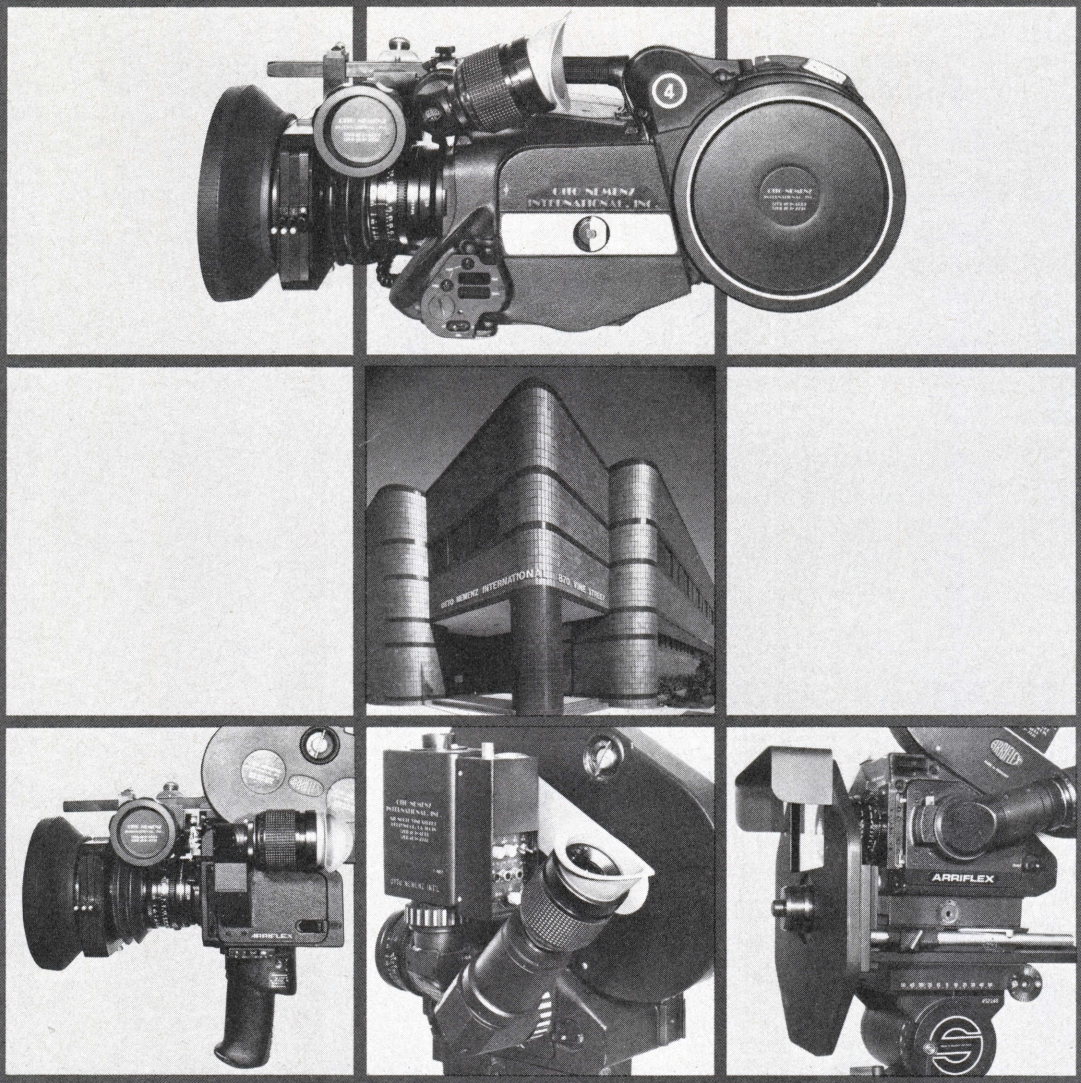

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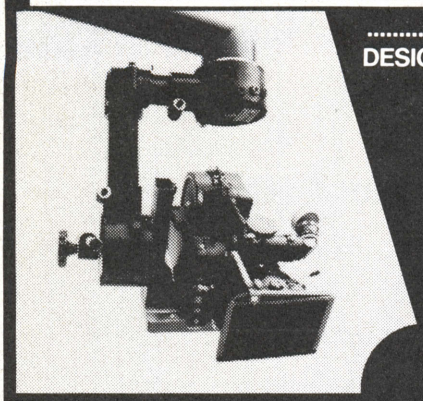

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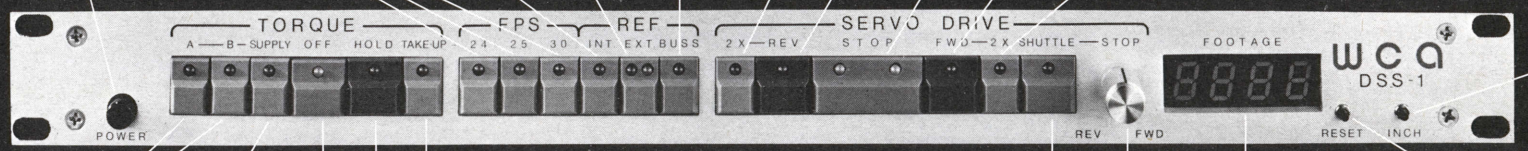

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BUSS SELECT will cancel all other Servo Drive commands and allows Buss input of 90Hz per frame Square Wave or Sine Wave. Will follow up to 90FPS in 16mm or 60FPS in 35mm mode of operation.

2-TIMES SPEED REVERSE MODE 48/50/60 FPS activates transports at two times sound speed in reverse mode at 48, 50 or 60 FPS.

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SELECTABLE 24/25/30 FRAMES Selects basic Servo Drive speed at 24/25 or 30 frames per second from reference of Internal Crystal, Line Frequency 50/60Hz or External Input 50/60Hz.

REVERSE MODE activates transport at sound speed (24, 25 or 30 FPS) in reverse mode.

STOP MODE will stop transport. Allows minimum torque to supply/take-up torque motors.

FORWARD MODE activates transport at sound speed (24, 25 or 30 FPS) in forward mode.

POWER ON/OFF SWITCH applies 120 or 240 VAC ± 10%, 50/60Hz.

2-TIMES SPEED FORWARD MODE 48/50/60 FPS activates transports at two times sound speed in reverse mode at 48, 50, or 60 FPS.

"A"-WIND/"B"-WIND SWITCHES. Select "A" or "B"-Wind for the supply Torque Motor to change direction (clock-wise/counter clock-wise). This function is only active when Torque is in the "OFF" mode.

TORQUE TAKE-UP (FAST FORWARD) Torque Take-Up will turn on the Take-Up Torque Motor at approx. 15-inch ounce of torque, allowing for fast foward of film motion outside the sprocket drive.

DIGITAL FOOTAGE COUNTER indicates footage of film in four digits for forward operation to 9999 feet.

COUNTER RESET SWITCH resets the digital footage counter to 0000.

HOLD - FOR NORMAL RUN MODE. In Hold position, the torque motors apply tension to film for proper play-back and record operation; both torque motors are energized while film is in stop condition, minimum torque is applied.

SHUTTLE CONTROL KNOB for Reverse/Stop/Forward and Variable speeds. Control knob may be pre-set to within the maximum speed of 16/35mm, and/or allows continuous variable manual operation.

TORQUE SUPPLY (FAST REWIND) Torque Supply turns on Supply Torque Motor at approx. 15-inch oz. of torque in "A" or "B"-Wind for fast rewind outside of sprocket drive.

TORQUE OFF Power is removed from both Torque Motors. Mode for loop operation.

SHUTTLE MODE allows continuous variable speeds Forward and Reverse, from 2 to 90FPS in 16mm and to 60FPS in 35mm, by utilizing Shuttle Control knob.

Donald Douglas glares jealously as Betty Compson receives a continental homage from Erich von Stroheim.

Talkie Trouble: The Great Gabbo

Michael H. Price and George E. Turner

"TALKIES" proved an ironically apt term for films made during the early days of the industry's plunge into audio synchronization. Top heavy with sound over sight, the new technology promised a great deal more than it at first seemed able to deliver. The novelty it afforded moviegoers of 1928–30 was paltry compensation for restraints the microphone placed upon the camera. Talk, it developed, was practically all most of the earlier talkies had going for them. If a screen story lacked emotional impact or intellectual stimulus, neither camera nor cutting room could do much to remedy matters.

One musical drama from this period, *The Great Gabbo* (1929), tells much about how filmmakers, hobbled by microphone cables, sought to overcome the purely documentary function to which sound technology had temporarily reduced the camera.

The story centers upon a coldly perfectionistic, self-centered ventriloquist, Gabbo, who performs on the vaudeville circuits with his dummy, Otto, and his pretty assistant, Mary. Spurning Mary's love for him, Gabbo eventually drives her away after she stumbles and drops a tray during his act. Gabbo later becomes famous as star of the Manhattan Revue, where he meets Mary and her new singing and dancing partner, Frank. Realizing that he loves Mary, Gabbo egotistically assumes she will return to him. When he learns that it is too late, that she and Frank have married, his mind snaps and he rushes onstage during a musical number, raves insanely and smashes Otto. When Mary tries to comfort him he doesn't recognize her. Carrying Otto, he wanders aimlessly into the street.

While the Ben Hecht-Hugh Herbert screen treatment is sufficiently gripping to have worked as merely another photographed stage play, it is clear that cinematographer Ira H. "Joe" Morgan held still only when he had no other choice. And although lengthy takes of story exposition rely on actor-director strengths, bereft of closeups or tracking to sustain visual interest, a willingness to experiment and an impatience with the sanctions of sound are evident throughout. A few hesitant intercuts, meant to show the response of a Broadway audience to action onstage, serve chiefly to demonstrate the forced compatibility of lens with microphone: the insertion of footage depicting laughter and applause interrupts the flow more than it complements the exposition. More effective is the use of superimposition, heralding the climax with a chaotic mingling of visual imagery underscored by shouts and orchestral dissonance.

Gabbo's lure for present day audiences (it is popular with film societies and film students) is its place in history as Erich von Stroheim's talking picture debut as the mad ventriloquist. No longer considered affordable as a director, his bent for extravagance having alienated the studios, Stroheim plainly contributed more here than the depiction of a haunted artist who, as a character in the film notes, "talks to that (dummy) and . . . takes it seriously." The Stroheim-like exposition of the film, integrated sub-plot

Gabbo berates Marie for her clumsiness.

and all, may be attributable to producer-director James Cruze, who practiced a similarly deliberate approach and whose pre-production formula called for inviting suggestions from what he called a "community council" of cast and crew members following a recitation of the script. There is little doubt that Stroheim, a frustrated experimenter with ideas budgets sometimes couldn't bear, took advantage of Cruze's receptiveness.

Cruze (1884–1942) entered the movies as an actor, his leading roles including a 1912 version of *Dr. Jekyll and Mr. Hyde* and heroic roles in Thanhauser serials. He then became a director of remarkable versatility, as adept at slapstick (Fatty Arbuckle comedies) as at spectacle (*The Covered Wagon*, 1923) and fluent in both sophisticated comedy (*Ruggles of Red Gap* and the self-parodic *Hollywood*, both 1925) and expressionistic cinema (*Beggar on Horseback*, 1925). Upon completion of his Paramount contract in 1928, Cruze organized his own company with offices in Hollywood on Santa Monica Blvd. By March of 1929 he had acquired spacious sound-film production facilities in Hollywood with the purchase of the I.E. Chadwick Studios, on North Gower Street, where he turned out several shorts as a prelude to an ambitious lineup starting with *The Great Gabbo*. He adapted readily to the demands of sound, which had in fact caused an intimidating, if fleeting, de-evolution of moviemaking to a primitive state. After *Gabbo*, he was responsible for such strong efforts as *I Cover the Waterfront* (1933), *David*

Ira L. Morgan, ASC* –Gabbo *wasn't an easy assignment.

Harum and *Helldorado* (both 1934), and *Sutter's Gold* (1937). His career was seriously hampered by a chronic drinking problem.

None of *Gabbo*'s weaknesses, most stemming from the microphone's undermining of production confidence, is crippling. An understanding of the technology of the time explains why the players often appear self-conscious, why the dialogue is hindered here and there by a muffled tone, and why long exchanges go unrelieved by closeups. Cameras were confined to stationary celotex, glass-windowed booths known as "iceboxes" which squelched the camera's whir but sacrificed motion. A centrally positioned, hidden microphone – boom-miking out of camera range had yet to be perfected – could capture voices faithfully only if the players spoke directly into it. The fear of botching synchronization by post-production intercutting evidently kept Cruze from blocking drawn-out conversations into shorter takes.

One such sequence illustrates both the awe in which filmmakers held the newfangled art of sound and Stroheim's professed dislike for memorizing dialogue: the actor scrambles "now" and "more" into "nor," then recovers his line and proceeds. Why Cruze allowed this blot on his reputation as a perfectionist defies an answer, although a retake would have demanded a great deal more work than a simple patch.

Near-lavish production numbers, incorporating the Gershwinesque orchestral jazz that was all the rage in 1929, impart a welcome sensation of motion and propel the story. One tune, "I'm Laughing," explores the value of laughter as anesthesia for the ventriloquist's emotional pain, then at last proves a cruel self-contradiction as Gabbo, his depression decayed into hysteria, charges off-cue into the finale of his own show, screaming, "I can laugh!" Ziegfeld-like production spectacle merges nicely with expressionism in a sequence for which the stage is strung with a vast spiderweb. This prop, a metaphor for the tangled emotions of Gabbo's love interest (played by Betty Compson, Cruze's wife during 1927–9), is as important dramatically as scenically; between stanzas of their vocal duet, Compson and Donald Douglas (her new husband and co-star) argue violently about her relationship with Gabbo. To compound the participatory feeling, there are realistic scenes of backstage hustle and bustle as performers grumble about the pompous ventriloquist and hurry to change costumes.

Story development also hinges on the secondary tale of a lower-rung show-business man and wife who knew Gabbo "when" and trace his fall by snooping, reading tradepaper accounts, and at last observing his final breakdown from the audience. This idea is a Stroheim trademark, one he had used with some honeymooners in *Blind Husbands* (1919) and the junk dealer's household in *Greed* (1925).

Gabbo, a Stroheim-like character Ben Hecht had created for a short story, "The Rival Dummy," is invested with two of Stroheim's own characteristics: superstitiousness and a militaristic formality masking fragile self-confidence. He is established as a tyrant who drives away his lover, then gradually lets show an excitably child-like tenderness which deteriorates to violence and then withdrawn apathy on losing the hope of reconciliation. In depiction of this gathering madness, the camerawork contributes as much as the acting and direction through the expert superimposition of stage-show excerpts alongside a closeup of Stroheim's face. Happy expressionist-deco sets become menacing, a quality intensified by the juxtaposition and mingling of musical fragments and dialogue. One prominent stage fixture, a huge revolving spiral of the sort used in the German expressionist cinema of the 1920s to connote chaos or insanity, dominates this passage.

The use of Gabbo's dummy, Otto, as an outlet for feelings the ventriloquest dares not express makes *The Great Gabbo* a direct ancestor of the most memorable passage of the acclaimed British film, *Dead of Night* (1945), or Richard Attenborough's *Magic* (1978), and an Alfred Hitchcock television episode, *The Glass Eye*. Unlike these later films, all of which were designed to shock or horrify, *Gabbo* is purely a tragic study of a deteriorating mind. Otto's falsetto voice is given a Viennese accent which nearly matches Stroheim's own, but there is a significant discrepancy: Otto addresses the Compson character as "Mary," but Stroheim calls her "Ma-ree." The ventriloqual routines are entertaining in a broadly cornball way, including one based upon the famed act of Marshall Montgomery in which Otto talks while Gabbo smokes and drinks.

"Joe" Morgan (1889–1960), after a start as an electrical engineer, began his movie career as a lab man in 1907 and became a cameraman in 1911. He

shot the popular Broncho Billy Anderson Westerns at Niles, California, for two-and-a-half years, then joined the American ("Flying A") company at Santa Barbara for several years. His work gained greater attention when he photographed a number of highly praised pictures directed by King Vidor, including *The Jack Knife Man* (1920), *The Family Honor* (1920), *Poor Relations* (1919) and *The Other Half* (1919). Cosmopolitan, the Hearst syndicate producing company then aligned with Goldwyn, brought him to New York to photograph Marion Davies' glossy, expensive pictures, such as *Enchantment* (1921) and *Janice Meredith* (1925). After six years he joined MGM in California for another five years, then began free lancing at most of the major studios.

During the 1930s, possibly because of a labor-management dispute, he found himself relegated to the so-called Poverty Row companies, independent producers who made pictures quickly and cheaply on rented sets and relied upon the speed and competence of men like Morgan for their existence. Except for an occasional large-scale production such as Charlie Chaplin's *Modern Times* (1936), he spent a decade making "quickies" for scale, surviving the Depression the hard way. By the end of the decade, most of the small-time companies had gone under and Morgan opened a portrait studio. His ability to shoot fast and efficiently served him well when he returned to photograph numerous Sam Katzman serials and Jungle Jim features for Columbia during the late 1940s and early 1950s. A heart attack forced his retirement in 1956.

Gabbo does not showcase Morgan's skills at their best – the cards were stacked against him. Lighting usually is too generalized to capture the dramatic possibilies of the theme and the static camera is debilitating. The stage production sequences were shot in Multicolor, a process which tendered the screen garish in a film of generally subdued visual effect. The bipack two-color system enabled extraction of tones from orange and blue, resembling the later and better known Cinecolor. (Even Technicolor was a two-color process at that time, its range of hues being derived from red and green elements.) Other Multicolor films included *Fox Movietone Follies of 1929*, parts of *Hell's Angels* (1930), and the animated cartoon, *Goofy Goat* (1931). The company's chief owner and vice president was Howard Hughes, who used the Multicolor plant in Hollywood as his California headquarters after the process was discontinued in 1932. (Existing prints and videotapes of *Gabbo* are entirely in black and white).

Stroheim dominates the cast with ease. Compson's bittersweet portrayal of a girl whose faded love for Gabbo resurfaces as a motherly concern

Gabbo often must express himself through his dummy, Otto.

Gabbo runs amok on stage during the grand finale and must be restrained by his colleagues.

becomes unwitting cruelty by allowing him false hope, provides some realistic ballast for Gabbo's paranoia. Pauline Starke had been announced for the role, but Compson applied the pressure to Cruze and got it. Unfortunately, her rather strident voice did not record well and her days of stardom in the talkies were few. Portraying her new husband, light-opera veteran Don Douglas performed better as a singer than as an actor.

Initially appealing as a curiosity, *Gabbo* delivers a fascinating story and characterization. The mostly static camera work has to be accepted as a matter of historical reality (audiences of the time, spoiled to the fluid photography of the late silents, faced a similar caveat). What the camera could not capture through motion, however, is sometimes brought to life through the art of composition. In a poignant closing scene which comes close to reconciling sight with sound to perfection, the lens has the last word. As the microphone picks up Stroheim's receding footfalls, the camera captures a scene of horrid desolation: At ground level, Gabbo ambles past the scene of his rise and fall while, above, a theater handyman removes, letter by letter, THE GREAT GABBO from the marquee. ■

Presented by Henry D. Meyer *and* Nat Cordish; *produced by* James Cruze Productions, Ltd.; *released by* Sono-Art-World Wide Pictures *by arrangement with* Harry H. Thomas *and* Samuel Zierler; *directed by* James Cruze; *continuity and dialogue by* Hugh Herbert; *story by* Ben Hecht; *photographed by* Ira H. Morgan, ASC; *color sequences in* Multicolor; *art director,* Robert E. Lee; *musical director,* Howard Jackson; *songs, "The New Step," "I'm in Love With You," "The Web of Love," "The Ga-Ga Bird," "I'm Laughing," "Ickey," and "Every Now and Then" by* Paul Titsworth, Lynn Cowan, Donald McNamee, King Zany; *dance director,* Maurice L. Kusell; *sound supervisor,* Helmar Bergman; *costumes,* Andre-Ani; *production manager,* Vernon Keays; *running time* 90 minutes; *premiered in New York, September 12, 1929.*

PLAYERS: *Gabbo,* Erich von Stroheim; *Mary,* Betty Compson; *Frank,* Donald Douglas; *Comedienne,* Margie "Babe" Kane; *Neighbor,* John Frank Hamilton; *Performer,* Harry Ross.

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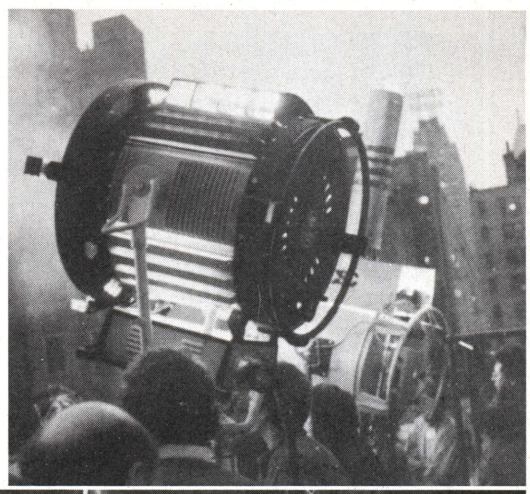

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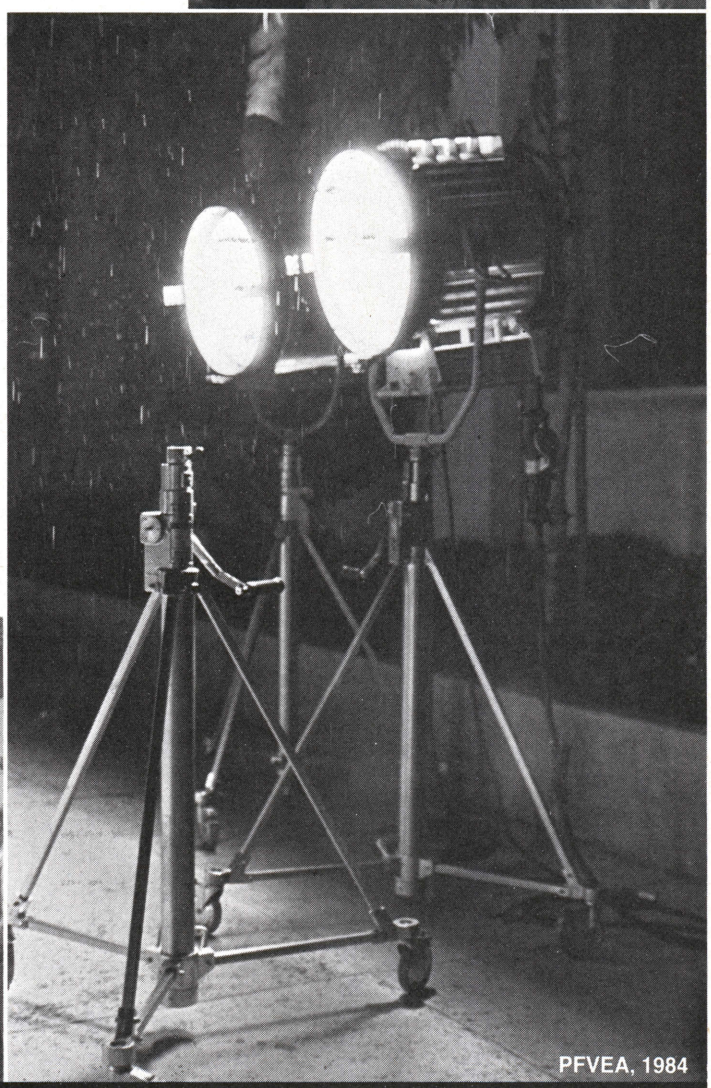

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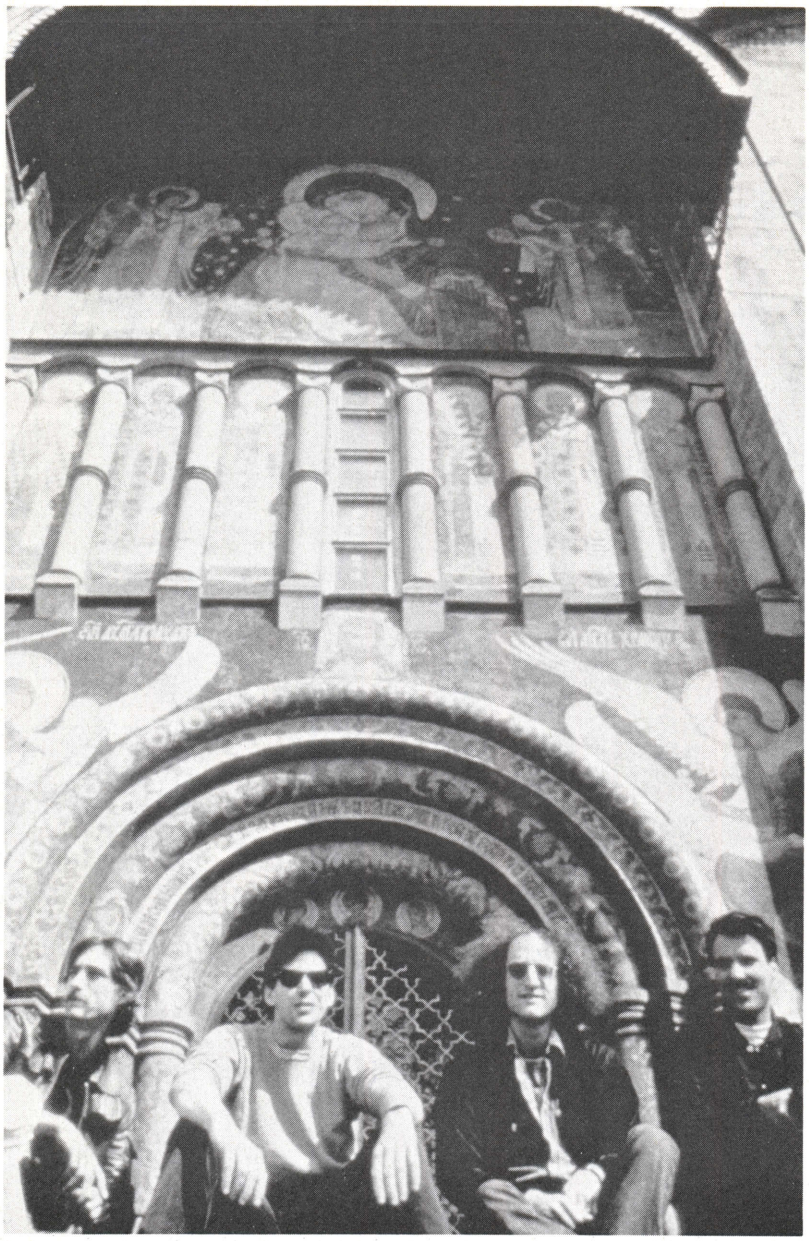


Jacki Ochs

ROVA (Andrew Voight, Bruce Ackley, Larry Ochs and Jon Raskin) on the steps of the Kremlin.

Saxophone Diplomacy

Laurence Campling

In June 1983, the San Francisco based ROVA Saxophone Quartet defied an official U.S. ban on cultural exchanges to the U.S.S.R. and embarked on a jazz tour of Moscow, Riga, Leningrad, and several cities in Romania. They were accompanied by a production team from Ideas In Motion, whose video documentary of the tour, *Saxophone Diplomacy*, premiered last July on San Francisco's public television station. It provides a colorful record of the group's experiences and insights into life in the Soviet Union. The story of its production contains much in the way of practical advice and encouragement for anyone with the desire to tackle the difficulties of shooting a documentary in Eastern Europe.

The Ideas In Motion team consisted of cameraman/director John Rogers and sound recordist Jim Mayer. They were joined by co-director Dimitri Devyatkin, whose knowledge of the Russian language and understanding of the often inscrutible Soviet bureaucracy were essential to all stages of the project.

From the outset, the crew was concerned with three major areas of potential difficulty: they would have to be able to operate without any technical back-up for three weeks; they would have to contend with the tensions that would result from working in an environment in which legal restrictions and requirements are often shrouded in mystery; and they would have to respond instantly to developments in a constantly evolving story, and a schedule that changed daily, if not hourly, as the journey unfolded.

By necessity the team traveled lightly. Their equipment consisted of a Sony BVP 330 camera, BVU 110 recorder, Sachtler/Lisand tripod, monitor, Lowel DP lights, a small grip kit, microphones, batteries and a transformer for charging them, and 12 hours of ¾ inch videotape. Everything was packed into ten cases for transportation wherever the crew traveled, whether by plane, train or bus.

The shooting schedule turned out to be so hectic that pre-planned lighting setups were often impractical, but the soft tones produced by the Russian evening sun and the delicate use of natural light added a particularly striking quality to the finished piece. As the crew carried a minimal amount of lighting gear, the long summer days in the Northern latitudes of the USSR proved to be a welcome bonus, providing the crew with enough available light to shoot outdoors as late as 10:30 at night.

In pre-production, a major question was what kind of documentation would be required to get the video equipment through customs. Initial research indicated that a Carnet, an internationally recognized listing of property that is to be taken into a country and then removed, would be required. Further investigation revealed that the Carnet was not recognized by the USSR. Furthermore, if such a formal document were presented it might have jeopardized the delicate "informal" understanding under which the tour was taking place. Ultimately it was decided to fill out routine U.S. Customs documents which would permit re-entry of the equipment into the U.S. without paying import duty.

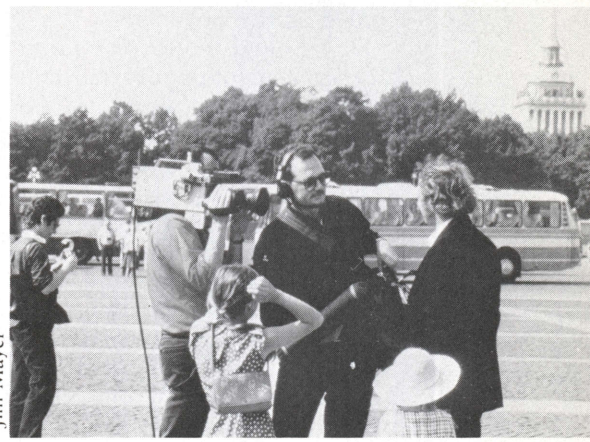
Another touchy issue relating to the informality of the tour was the question of official permission to shoot in the USSR. No such permission had been granted and the Ideas In Motion crew was apprehensive that they might be turned away at the Moscow airport. Again, informal assurances were received that the video crew would be welcome. As it turned out, this "informal" status proved to be a great advantage, as Ideas In Motion was able to roam the streets freely, shooting without any supervision by Soviet authorities. One word of caution to those considering filming in the USSR; although this informal approach worked well for the ROVA tour, there is no guarantee that this precedent will be followed in the future.

George Mattingly

Dimitri Devyatkin, John Rogers and Jim Mayer set up a shot in Moscow.

During the trip, the video team was rarely at rest. Even during the stopovers in major cities on the tour, they were constantly on the move; filming interviews with the Russian people, with Devyatkin acting as interviewer; seeking out places of visual interest, like the tomb of the Unknown Soldier near Red Square in Moscow, where brides traditionally lay wreaths after the wedding ceremony; and attempting all the time to capture the telling details of Russian life, from the faces of the children to the golden domes of the Kremlin. All this was undertaken within the extremely rigid confines of a busy tour schedule.

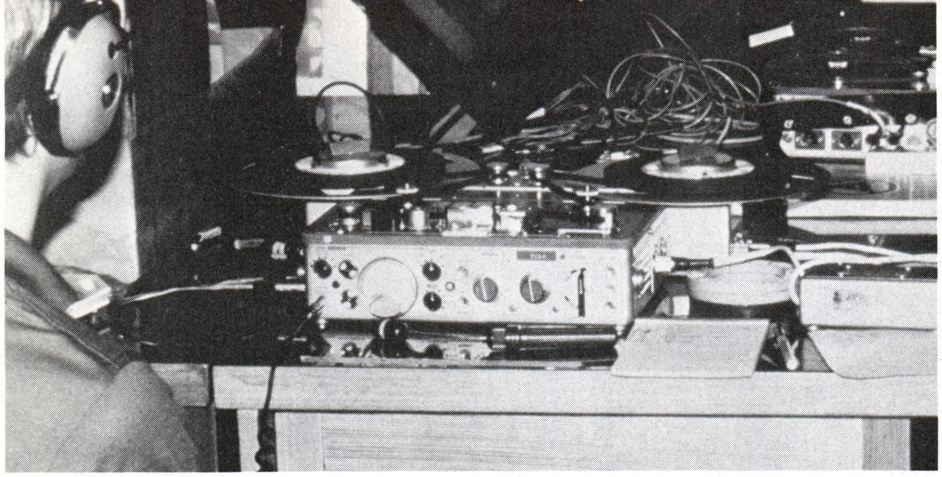
Over everything hovered the feelings of uncertainty and insecurity that resulted from working in an unknown and unpredictable environment. Never sure how closely their activities were being scrutinized by the authorities, the crew had little in the way of clear indications as to the limits of their activities. Airports and train stations were strictly off-limits to all cameras, but beyond this they took full advantage of whatever they could find. Says Rogers, "We shot pretty much as we would have shot anywhere in the world, and decided to just go after the things that we needed." The fact that they were not, despite their fears, prevented from gathering this material is still a subject of some wonder to them. According to Rogers, "It's difficult to know whether we were being treated with indifference or deference. We were being careful, but I think we were also just lucky. Or perhaps all our fears were ill-founded." The ease with which they finally walked through customs upon leaving the Soviet Union, with all the tapes left undisturbed in their cases, was the ultimate testimony either to their good fortune or to the authorities' benevolence.



Jim Mayer

A man-on-the-street interview in Leningrad.

The documentary's music soundtrack was taken from recordings made by Bob Shumaker of Berkeley's 1750 Arch Street Studios, who was on hand to record a live album of the tour, *Saxophone Diplomacy*. Shumaker recorded ROVA's concert performances on a Nagra IV-S. These tapes were then transferred to



George Mattingly

Bob Shumaker with his Nagra.

half-inch four-track in post-production, using the Nagra's crystal reference to ensure speed accuracy. SMPTE time code was added and the audio was then matched to the guide tracks recorded on the videotape.

Sound for the documentary segments of the program was recorded by Mayer using an AKG 451 EB condenser mike with a CK8 hyper-cardioid capsule, and Tram lavaliers.

For post-production work on the documentary, KQED donated 50 hours of studio time for on-line computer editing, in return for local broadcast. Says Mayer, "KQED really made the project possible. No one knew what the final product would be, so it took a lot of faith all around to make it happen. They also gave us a grant up front before the tour for stock purchase."

Saxophone Diplomacy has been submitted to PBS for possible national broadcast, and an agreement for international distribution has been signed with Producers Services Group in Boston.

ROVA's music has been described as "ideal brain food for intellectual jazz listeners who love to puzzle over microstructures and counterpointed fields of improvised sound." But the seemingly cacaphonous array of honks and squeals is generated from a reservoir of intense energy and often employs delightful melodic phrases which can move the listener physically as well as intellectually. The music is challenging stuff and is possibly intimidating to the conventionally attuned ear; a paradoxical tapestry of tangled and yet precisely woven threads.

In December 1981, ROVA member Larry Ochs received a letter from Alexander Kan, president of the Contemporary Music Club of Leningrad. In the letter, Kan congratulated ROVA on being "very influential in the development of a new wave of Soviet jazz" and went on to make a most intriguing proposal. "Thousands of your fans," he wrote, "would be happy to see and hear you perform live in our country." Unfortunately, the realization of this dream seemed, at first, to be beyond the realm of possibility, for Kan pointed out that "our club is a non-profit organization and therefore unfortunately has no opportunity to return your expenses and pay your fees for coming and playing here."

Although the prospect of paying their own way to travel to do a free concert is not usually attractive to any musical group, Ochs felt that the opportunity to play a part in bridging the gap between East and West during a time of extreme world tension made this project a special case. A conversation with BBC jazz DJ, Leo Feigen, confirmed that ROVA's music was well known and highly respected among the avant garde in the USSR. He felt that a tour by ROVA would, in fact, be an important event for Russian audiences and a rewarding exerience for the American musicians.

To get help finding sources of money to support this tour, Ochs turned to Eva Soltes, a Bay Area freelance producer and a self-styled "contemporary arts troubleshooter", whose previous work includes *The Way of How* with George Coates and projects with Conlan Nancarrow.

As a first step, Soltes sought an official invitation from the Soviet government. After much persistence, she was granted an interview at the Soviet embassy in Washington. Although officials there were initially unreceptive, they eventually proposed that if ROVA traveled to the USSR as amateur musicians on tourist visas the Soviet youth oriented travel service Sputnik would arrange informal concerts in which ROVA would share the program with local jazz musicians.

ROVA has toured extensively outside the U.S., including a tour of Hungary. Nevertheless, they approached the Russian tour with some trepidation. As Larry Ochs says, "We really had no idea before we got there what the circumstances would be – what kind of places we'd perform in, or who we'd be playing to. We looked forward to appreciative audiences, but we certainly didn't expect the kind of reception we actually received."

Of all the scenes recorded in the documentary, it is undoubtedly those surrounding ROVA's concert in Leningrad which most fully capture the intensity of this reception. ROVA's originally scheduled performance was inexplicably cancelled at the last minute; an action which Rogers later attributed, for lack of any clearer explanation, to a growing unease on the part of the authorities with the burgeoning local arts scene and a desire to discourage large, visible gatherings.

Within hours the concert was moved to another, smaller venue in the Dostoevsky Museum. However, the growing feelings of mystification and paranoia were increased when shortly before the band left their hotel, Eva Soltes received a telephone call from a representative of Friendship Ambassadors. She was warned that under no circumstances should the video

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equipment be taken to the concert, as it was believed the authorities would confiscate it. After a brief and tense discussion, the video crew decided to lock all the gear in the hotel room and leave it behind. When they arrived at the venue, their Soviet friends were astonished by the rumors, and assured them that they had nothing to worry about. The crew returned for the equipment and shot the concert, and interviews on the street afterward. Says Soltes, "We risked everything. Jim and John put everything on the line; their whole company in fact."

A riveting scene, shot that evening, amongst the crowd outside the concert, shows Soltes speaking about the strange events of the day with a calmness that belies the underlying tensions. During the performance, all these tensions and frustrations became channeled into the music, investing the occasion with an energy and power which took everyone by surprise.

In *Saxophone Diplomacy* footage of the band in performance during the tour has been deliberately kept to a minimum, and is used only to convey the ease with which ROVA communicates their energy to the audience. Attention is devoted instead to observing the reactions of the people to whom the music spoke directly. After the Leningrad show, one audience member searched for words to describe what she had heard, saying she had experienced something, ... "that touched me deeply. I don't listen to that much jazz but I felt something inside of me respond to this music."

The documentary's narration was written by Lyn Hejinian, wife of band member Larry Ochs, and author of several books of poetry. She had never written TV documentary material before, and the result is an unusually fresh, poetic and vivid narrative that eloquently captures the feelings of excitement and wonder experienced by the group. Says Hejinian, "I felt and still feel extremely emotional about the trip. The people were extraordinary, and I really wanted to understand more about what was going on there. And basically what the film is about is that Russia has fine people, too. Let's not forget that in the midst of all this rhetoric."

According to Ochs, the focus on the documentary was never intended to be ROVA and their music, but rather the communication that was established with the Russian people and "the fact that this is not cowboys and Indians." Says Hejinian, "If artists of all kinds would go over there and find out where the artists are and just talk, it would make a huge difference. It's good for them and it's good for us, too. I've been riding on the emotional energy ever since, and it's been over a year now."

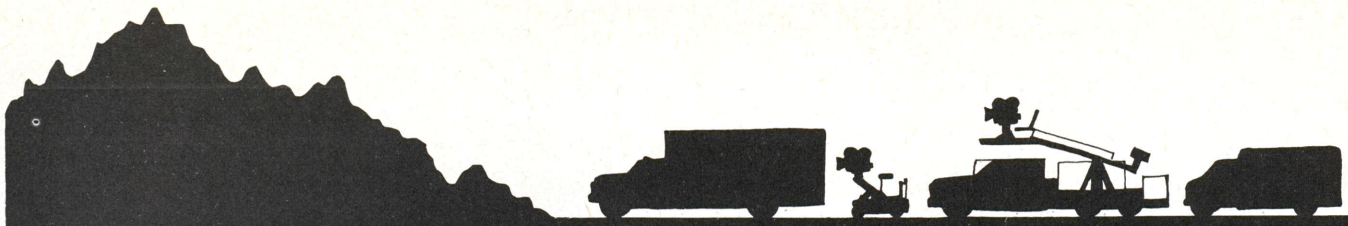
Says Hejinian of meeting with one Soviet woman critic from a music magazine, "She came to the concert and, as with many people we met there who were so excited to have Western artists and intellectuals to talk to, we became friends. She put her hands like this (cups hand and places the fingers of her other hand in her palm) and said, 'I listen to ROVA and I'm *there*.' And she started crying. It's hard for Westerners to understand how intensely art is valued there."

This realization was confirmed by one Romanian musician who traveled with ROVA on the final leg of their tour. He said, "You have no idea how much you have helped us in our struggle to keep new music alive here." Adds Ochs, "Although I basically know that you're not going to change anything by playing music, I believe that if we put enough of this art out there, things might get better."

The mobile mode of production which is a hallmark of *Saxophone Diplomacy* is nothing new to the principles of Ideas In Motion. Their early productions include pieces described by Rogers as, "freewheeling, verité-style, cultural documentary" which they began to produce in the early 70's using the first, black and white, portable, half-inch video. A decade, and several documentaries, later they produced *Salmon On The Run* which documented fishing and environmental controversies in the Pacific Northwest and was subsequently bought by NOVA, the PBS science series.

In 1980, Rogers, Mayer and Lynn Adler formed Ideas In Motion, which produces industrials, commercials, and corporate programs for several major clients in the SF Bay Area. Rogers says they enjoy the balance between this and their documentary work. "We welcome the opportunity to work with local talent and facilities. It's all a creative challenge. We try to really put ourselves into whatever we do, whether it's a documentary style shoot or shooting on set on a stage."

Saxophone Diplomacy could prove to be a milestone in the history of this small San Francisco company. Ideas In Motion has done far more than record ROVA's prodigious mastery of their music. Their greatest achievement has been to demonstrate the enormous cultural benefits to be gained from individuals taking things into their own hands in an attempt to bridge the gulf between East and West. There could be no better illustration of their success than this excerpt from a letter Soltes received after returning to the States from a woman she had met in Riga. "Dear Eva," she writes, "there were three days only when we were in contact and you can't imagine how terrible our feeling was when you had gone away. We all went to my home and it was the night of memories. For the first time we were together in that company and it was so sincere, and it was so beautiful to speak all the night about our impressions. Really people become better when they have the same sorrow. And at that time it is excellent that we could meet you; that we could hear that live music. It was the thing we needed; that we were waiting for. So we are happy that it has happened. Thank you for those days." ■



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STRANGER THAN PARADISE

Eva (Eszter Balint) shows her visitors Willie and Eddie (John Lurie, Richard Edson) the serene beauty of a wintry Lake Erie.

Victoria Bugbee

Eddie, Eva and Willie head south on vacation.

Two years ago Jim Jarmusch had an idea to make a short half hour film with his friends who were actors, musicians and fellow alumni of New York University film school. He made the film for $8,000 and while he edited the short, Jarmusch wrote the second two-thirds for a feature. The film made the rounds in Europe and won several critic awards. Armed with the minor success of his first feature, *Permanent Vaction,* and the short, the poet-turned-filmmaker approached various producers for additional funds to complete the film, *Stranger Than Paradise.*

"I was meeting producers," recalls Jarmusch, "giving them my script and discussing many possibilities. Some of them were liars and some of them were sincerely interested in giving me a good deal. I wanted to own part of it and I wasn't interested in giving away something in which I had so much invested. Finally, this guy came along who had a great story about how he would produce the film, own half and stay out of the production completely. A few people had said this to me before, but, when I saw the terms on paper, it said something entirely different."

The guy was Otto Grokenberger, a young influential producer who was active in German television and independent filmmaking. To Jarmusch's surprise, Grokenberger's contract arrived substantiating the verbal agreement and a partnership was formed.

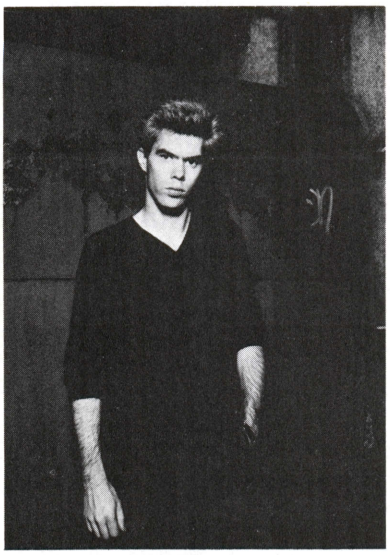
Stranger showed promise, but at the time no one foresaw that it would become an international sensation, winning the Camera D'Or at the 1984 Cannes Film Festival, Best Film, at Locarno, Switzerland and becoming a cause celebre of independent filmmakers everywhere.

"I'm still a little confused by *Stranger's* success," states Jarmusch. "I thought that formally and structurally the film would keep audiences at a distance and it would become a cult film in Europe and there'd be little interest in America."

Filmed in grainy black and white on 35mm stock and shot in forced perspective, the film presents a stark look at reality that tells a simple story in a series of vignettes. Told with minimal dialogue, action and emotion, the strong visuals are heightened by stylized rhythm and editing/cutting to black. The bleak imagery, reenforced by an eclectic soundtrack allows Jarmusch's deadpan humor to surface, imbuing the film with quirky vitality.

In synopsis, *Stranger Than Paradise*, is a story about three young individuals who are isolated in their own small world due to their inability to communicate their emotions. In the opening vignette, titled "The New World," Eva, a young raven-haired Hungarian girl in her late teens, arrives in New York. En route to Cleveland to live with her Aunt Lotte, Eva stays with her cousin Willie, also a Hungarian who immigrated to the "New World" ten years earlier. To both Eva and Willie's disappointment, the one night stay turns into ten days. Eva's visit in one of the most exciting cities in the world is limited to Willie's pathetically small one-room apartment and American culture is garnered from TV shows, comic books and Willie's limited perspective. Eddie, Willie's buddy, is her only other contact. Slowly Willie's attitude changes towards his light lipped, matter-of-fact cousin and the two find a strained closeness.

"One Year Later," the second segment, Willie and Eddie win a bundle of money in a crooked poker game and decide to split for Cleveland and visit Eva. The two long faced buddies whom the film's editor, Melody London, calls updated versions of Ralph and Norton of the Honeymooners—arrive in Cleveland in mid-winter to find Eva living a bleak existence.



Writer-director Jim Jarmusch.

For diversion, Willie and Eddie play cards with Aunt Lotte and eat bowl after bowl of homemade goulash. Meanwhile, Eva entertains a lackluster young suitor. Out of boredom, the New Yorkers leave Cleveland. On the road home, they realize that they have only spent a grand total of $50 of their original $600 and they decide to blow the money and head south to Florida. But first they rescue Eva and take her with them.

In the final vignette, "Paradise," to their dismay they find Florida a cold formidable foreign territory. Fun and relaxation eludes them and Eva becomes acquainted with the amenities of a cheap seaside hotel. Willie and Eddie revert to their old habits and go to the dog races, losing all their money. Eva consoles herself by reading comic books and playing her well-worn tape of Screaming Jay Hawkin's song, "I Put A Spell on You." From this point on, confusion builds as the three characters become separated. Eva considers returning to Europe while Willie and Eddie win back their money at the horse races. Willie and Eddie find Eva gone and head for the airport. Willie buys a ticket to get Eva off a Budapest bound plane and the plane leaves. The closing scene is of Eva returning to the motel.

Eddie, Willie and Willie's Aunt Lotte as Willie begs her to stop speaking Hungarian now that she lives in America.

Working with a total of $130,000 to complete the film as well as making the two films two years apart come together as a whole proved a taxing but exciting experience for all involved.

Cinematographer Tom Di'Cillo compares the creation of *Stranger* as similar to garage rock where "you go into the garage and knock out the sound. The beauty of *Stranger* is that it's got a vitality all it's own because it was created out of almost nothing." Not surprised by the success of the film, Di'Cillo, who is a paradox in filmmaking since he is now pursuing an acting career, sees the film in a unique light. "In New York, people were making films that were limp. Jim's work got out of the New York style and stands on its own. It has certain artifices, while at the same time it has the feel of 'Hey, look what we picked up at the junk pile.' "

Abandoned in a cheap motel in Florida Eva seethes with frustration over a wasted vacation.

For producer Sara Driver, the task of pulling the production in on budget was a feat of imaginative bargaining. Driver, who prides herself on getting a lot for a little, has worked with Jarmusch for the past five years. According to Driver, "We made *Permanent Vacation* (a full length feature shot on 16mm color reversal stock) for $15,000. That's when I learned about making 'below low' budget films. Then I directed my own film, *You Are Not I* which Jim shot for me. That was a 50 minute made

for $14,000. I had to blow up three cars which I pulled off for $150 and the help of 30 volunteer firemen from New Jersey."

"The second part of *Stranger* was shot on location in Cleveland and Florida," added Jarmusch. "I guess we could have shot the Cleveland stuff in Long Island City which would have helped since the budget was so low. But for me, being on location is very important."

Echoing Jarmusch's sentiments about the locations, Di'Cillo, after recently viewing the film, found it to be "filled with the most desolate locations on earth." This desolation is heightened by the wide angle lens perspective and the use of black and white. Both director and cinematographer agree that the film would have become an entirely different story if color had been used.

Di'Cillo, who's strong background in B & W stills combined with his writing abilities, got him into film school, sees shooting in color analagous to "shooting in a candy store filled with a lot of little jelly balls. "You have to become very substractive when dealing with color. I love black and white because it suggest a style of life removed from life. The medium lends itself to an expression of life that is altered."

Jarmusch sees the extensive use of color in today's film as more of a marketing tool than as an artistic device. "I think it's sad the way color is used. Usually, color is the standard because people have to have color to sell it to TV or whatever. Color can be used so beautifully, but usually it's just taken for granted. Black and white just doesn't give you as much information."

In essence, *Stranger* is a testament to the unique properties of black and white and a survivor in a vanishing technology. The first segment, "The New World" has a very grainy, gritty almost dirty quality. In contrast, the rest of the film is a cleaner, sharper print. Once again, budgetary constraints account for the differences. "The New World" was shot with left-over film which Jarmusch, then Nick Ray's assistant on Wim Wender's film, *Lighting Over Water*, received as a donation.

"This was processed at a slop lab in New York," remarked Driver. "It's very difficult to find someone who can process good black and white. Du Art matched the second part quite well. We were in Florida and Cleveland and would send the dailies up to Don Donigi at Du Art and he'd give me great daily reports. They're good, but like everyone else, they can make mistakes."

For the New York film festival, Cinesthesia Productions (Driver's and Jarmusch's company) wanted top notch prints. What was shown provoked film critic, Vincent Canby, to write an article in the *New York Times* which stated that the film looked as if it had been sitting on a window sill for a year. Driver, who attributes the poor print quality to a company strike, pulled the film from the lab. Driver returned to Du Art with the negative after Samuel Goldwyn, the film's U.S. distributor, had a difficult time pulling satisfactory prints.

"The prints from Du Art," says Driver, "are now very beautiful. They have a wonderful silvery finish to them."

Time limitations compounded with limited resources became critical during the filming of the second segment. According to Di'Cillo, "There was more pressure on the second shoot than the first. We were trying to make Cannes so we had to work very fast, shooting all day, every day for two and a half weeks. With such a tight schedule we had some near disasters. But I like to work fast. It brings out an element of freshness and you have to be creative. Also, Jim and I have a good working relationship because we are so different."

Due to their personalities—Jarmusch, the pensive, studied poet, as opposed to Di'Cillo's electric, open intuitive presence—they find their similarities and disparities a boon to their working relationship. This bond between the two formed while at NYU.

"When Jim first talked to me about *Stranger*, notes Di'Cillo, I saw it as a very strange comic strip. The idea of doing each scene as a single take struck me as a single frame of a comic. The fact that there are no cuts forces you to look into the scene and see what is happening."

"Where Jim and I fought was when he wanted to keep the camera away from the characters, distant. I've learned that if you're continually distant, the image on the screen will die for the viewers. Not that I want TV close-ups, but I want to be closer."

Jarmusch finds that Di'Cillo's way of looking at things is very different than most cinematographers because he is also an actor. "Tom's much more aware of the way certain characters move and other small details. Working with him is very exciting. He's shot a lot of film and has been a running thread through New York's Cinema. Tom's sense of timing and movement and his use of light amazes me. He's very poetic with light in a simple way. He doesn't make it naturalistic but rather goes for effect and creativity."

Di'Cillo accounts for lighting as the result of working with limited equipment. The bizarre light patterns that happen

Cinematographer Tom Di'Cillo also played a bit part in the film.

Eddie, Eva and Willie on the beach in Florida.

in the interior scenes in "The New World" were the result of working with "rinky-dink" 8mm lights which annoyed Di'Cillo to the point of forcing him to throw them out half-way through the break-neck two day shoot. Using the last light left, he threw one bright line of light, coming from an irrational light source, out over the set. To Jarmusch's satisfaction, Di'Cillo was able to create the look which was followed throughout the film.

Using an Arriflex-BL, Di'Cillo found two lenses, an 18 and a 25, a fascinating exercise, yet his first priority is to what is in front of the lens. "I like to penetrate with the camera, to penetrate what is really happening. I look through the lens not for composition but for the life within the frame. That life is either within the objects or the actors. I think this is due to my training as an actor.

"But working with two lenses was exciting because most of the shots had to sustain themselves after two or three minutes with no cuts. I like things to happen accidentally. The composition continually rearranges itself within one frame.

"The last day we were in Cleveland, Jim wanted to shoot the lake. He thought it would be great. The sun was out and the fact that there was snow on the lake was to be part of the joke. No sooner did we get there and set up, but a snow squall came in off the lake. There we were shooting in the middle of a blizzard. It has the effect of looking into a ball of cotton—a total void."

Sometimes, according to his own admission, Di'Cillo's inexperience threw a cog in the wheel of production. Problems, which were later corrected in opticals, resulted on the Florida shoot due to the fact Di'Cillo was minus a ground glass with TV demarcations. He began framing for 1.85. The ordered glass never arrived and an hour before the crew packed up, Jarmusch was informed that the mike was in every frame.

Sound problems also plagued *Stranger*. London, who had dropped out of NYU to pursue a career in political documentaries, found the sound of the first part very different from the last segment. "Jim and I were very concerned because not only was the sound different technically, but the character of Eddie was so much more evolved in the second half. He's so silent in the beginning. Jim kept asking me, 'Is this the same Eddie?' "

"The sound recordist (Drew Kunin) had a hard time because the shots were so wide and he didn't have a boom person and had to go it alone. The dailies would arrive with Drew's apologies. Plus, the sub-zero weather in Cleveland made things very difficult."

To correct these problems, London and Jarmusch worked feverishly covering them with tome and redubbing in an attempt to send a completed film to the Cannes review. Editing difficulties were compounded by the low budget which prevailed.

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"Usually, the budget for a documentary is around $60,000, for a half hour film. On *Stranger* we had a much lower budget. We edited at the Editing Machine in the Film Center Building on 9th Avenue. It's really a grim place and the machine wasn't very good. To make things tougher, we didn't even code the film in sync."

At first glance the way the film is edited appears simple or as if it was edited in the camera. Yet it is a highly sophisticated exercise in precise rhythm. Jarmusch had conceived of the structure before he and John Lurie, who plays Willie and is the film composer, wrote the New World.

For Melody London, *Stranger* was one of the most unusually challenging films to edit. "I loved editing in black and white. It's beautiful. I'd study how the black leader and the shots would come together. In the composition, the element would move in and out of the picture. Working with Jim was very unusual because unlike most people I've worked with, Jim has a clear vision of the film. In that sense, my contribution was not as huge, but he was always open to suggestions. We worked very hard to leave the scene on an abrupt, ironic or comic note. Something that would make people laugh.

"Sometimes the lines didn't work. In fact, we changed the whole ending in editing. Originally scripted, Eva goes to the airport and you clearly see that she is not going to get on the plane. I thought that it was more interesting to leave this more ambiguous. I pushed strongly for the change. It's much more in keeping with the stylistic format of the film."

Jarmusch is fascinated by unconventional twists taken by the plot. "The idea was not to cater to any expectations from the audience. The plot and structure are so minimal that if you stop the film at any moment and ask the audience what is going to happen, they'd have no idea. Tightly scripted or plotted films draw your attention to the form of the plot

and I want to stay away from that."

London questioned the idea of black as a constant pause between each scene. "I thought we should vary it because people would become aware of the formula and possibly become bored. Jim found this idea seductive but then he thought it would provoke analysis, 'Why are they now going to white?' "

"Experimenting with black was a complex process. We tried six seconds, then two, then five. Literally, we cut hundreds of precise lengths of black leader and cut them into the film. We would screen each version of the film in it's entirety weekly at Du Art. Finally, we arrived at four seconds."

At this point, John Lurie came into the edit room to work on the score. The sound track is a romantic bittersweet waltz that borrows heavily from Bartok. Twisted into a unique sound by added elements of black music, Lurie's unique compositional style is totally homogenous with Jarmusch's visuals. Lurie brings to *Stranger* his background as leader of the new wave band, "The Lounge Lizards," and numerous film scores. In juxtaposition to the score is Eva's favorite song, "I Put A Spell On You."

Jarmusch actually built the story around Hawkins' blues song. "I wanted Eva's character to have some icon of American culture that she had attached herself to in Budapest. It's her idea of America. It had to be something offbeat, not Michael Jackson or something more predictable. Plus I love Screamin' Jay. It had to be black which for me is the essence of American music. It is the only rock and roll song that I can think of that has a waltz tempo. More importantly, thematically, 'I Put A Spell On You,' fit her character because she is a catalyst for any action that Willie and Eddie take. Without her, they are very indecisive."

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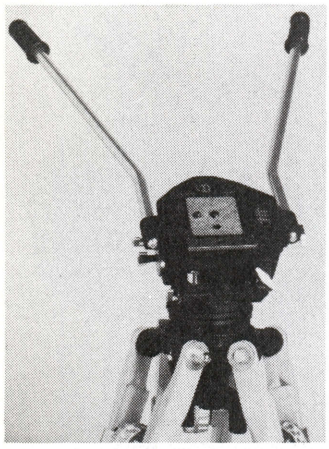

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throughout the film, controversies arose in the editing room. "There was a controversy about the music in the driving scene. Jim felt strongly that the music should be cut and then picked up on the other side of the black leader. John had written it as a continual piece and I had to agree with John. By this time, the editing room was a psychodrama. I was the pyschiatrist and they were both on the couch. If you have so much invested artistically in something, you're gonna fight like hell to have your ideas represented. In that film, everyone's personality is there. That's why there's an incredible balance."

The sound mix was handled by Jack Cooley of Manhattan's Magno Sound. Cooley's background as a musician and sensitivity to rhythm proved invaluable during the arduous sessions. "Jack was bewildered by some of the technical elements with sound dissolves and changes of the reel," recounts London. "Jim and I did not want the black spaces to be voids. On the end of every reel there was black with a sound fade then the next reel had black with sound carrying over. Jack would say 'You guys are making so many problems for yourselves.' He was sure the whole thing would fall apart and be butchered in projection."

Stylistically and cinematically, *Stranger* evokes a sense of denial and the repression of any sexuality adds slight tension. Jarmusch prevented any physical interaction between the characters and his direction to do so was a constant annoyance to the actors. Their frustration was apparant because of the actor's input into the content of the characters in the second part of the story.

"The story is so simple and people's sexuality is something really delicate," states Jarmusch.

In editing, London would kid Jarmusch and point out possible sexual innuendos which heightened his fear that the film would be analyzed on this level.

Interesting enough, Jarmusch is presently writing his next film which is a love story dealing with teenage sexuality.

"I'm superstitious and will not say anything more about it." The young silverhaired filmmaker pauses then adds lightly. "Only that it will be low budget and devoid of any clichés."

For Di'Cillo, his determination to act is his paramount concern. "After I shot *Permanent Vacation,* people were coming up to me saying, 'I want my film to look just like that.' There's a danger that people will just see the style of *Stranger* which is so alluring and not see what's within the style. I hope that we won't see imitations of this film.

"People think I'm crazy when I could be out shooting and making money. But, I'd rather paint apartments and study acting than let cinematography take me someplace I don't want to be. So, it's tough now. I was on a shoot the other day as an actor for Mark Rappaport's *Chain Letters*. He came up to me and looked at me kind of funny. He said, 'You're a cinematographer, aren't you.' I answered, 'No, I'm an actor.' "

"It's hard for independents to keep going," reflects London. "It gets discouraging finding money yet I'm very particular as to what I work on. As an editor you give a lot of time, a lot of care . . . you give your heart. I would never want to treat the craft as a money-making facility if I had to trade in interesting work."

After *Stranger* London produced a political documentary about Nicaragua called, *It's the Real Thing.* Director/producer Sara Driver, is due to begin production on a feature. Di'Cillo has made the commitment to pursue his ideals in an even tougher arena, in front of the camera rather than behind it. What if he can't make it?

"I guess, before I'm one foot away from landing on the Bowery, I'll beg for a dime, call up and say, 'Hey, Jim. You need a gofer?' " ■

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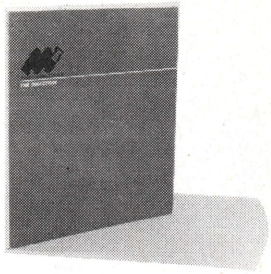

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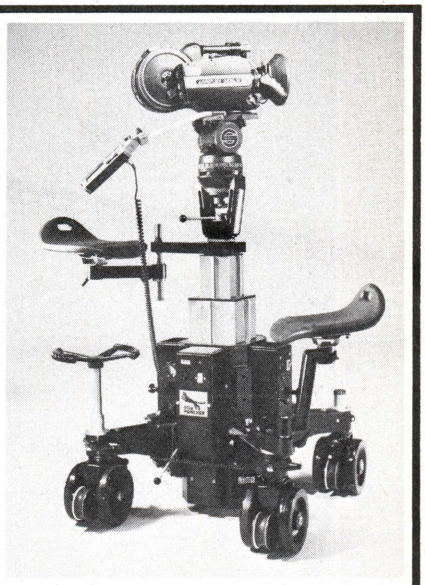

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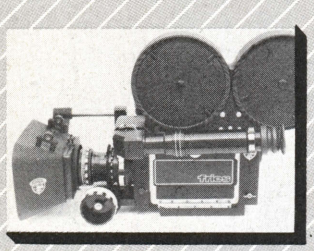

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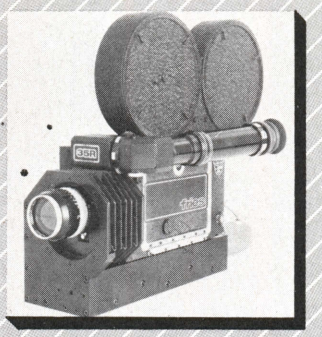

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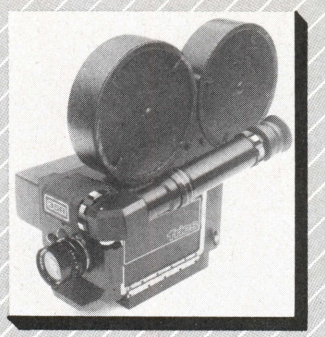

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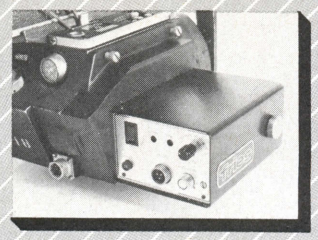

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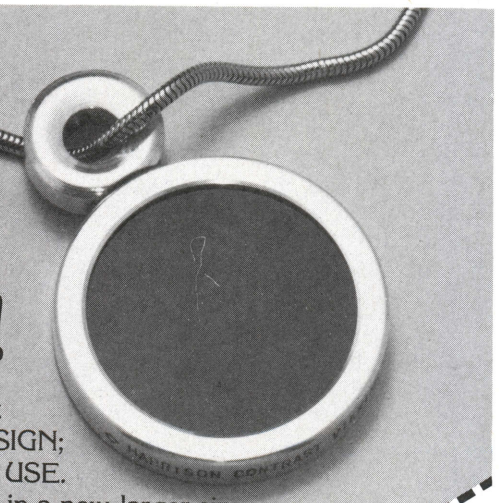

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Creating Dinosaurs for BABY

Nora Lee

Everybody has an idea of the perfect movie. What is amazing is that somewhere in that perfect movie a lot of people want dinosaurs. There is something about the huge creatures that captures the imagination. Capturing them on film, however, is the real challenge. How do you recreate something that was very real, but that no one has ever seen? The answer to that question stretches back to the beginning of motion pictures themselves.

Although there had been numerous animated cartoons produced in the early days of the movies, the first cartoon "star" was *Gertie, the Dinosaur,* who made her debut in 1912. The artist was Winsor McKay, creator of the popular newspaper strips, "Little Nemo" and "Dreams of a Rarebit Friend," whose work was greatly superior to that of previous movie cartoonists. Many cartoon dinosaurs followed, the best being in the Stravinsky sequence of Walt Disney's *Fantasia* (1940).

Also in 1912, the pioneer writer-producer-director-artist-cinematographer, Norman A. Dawn, provided a brief glimpse of a fight between a ceratosaurus and a stegosaurus in *The Ghost of Thunder Mountain,* using paintings to show the thoughts of a cowboy and his sweetheart when they find dinosaur bones in a canyon. In Dawn's 1914 production, *Two Men of Painted Butte,* cowboys see a dinosaur skeleton in a

***Two full size dinosaurs and 11 quarter scale dinosaurs were constructed for* Baby.**

Above: ***Isidoro Laponi with his creations.*** **Right:** ***Dinosaurs were constructed in Africa and transported to the location by truck and boat.***

museum. Their concept of a dinosaur is shown as the (miniature) skeleton dissolves into a gigantic, living reptile – appropriately enough, a chuckwalla lizard actually about one foot in length.

Writer-producer Harry Chandlee, also in 1914, dressed up live reptiles to resemble dinosaurs for the Lubin production, *On Moonshine Mountain.* At about the same time, D. W. Griffith and cinematographer G. W. Bitzer made similar use of an alligator and a snake, with prosthetic ornamentation, in Biograph's *Brute Force.* Griffith's cave men also were menaced by a full-scale mock-up of a ceratosaurus about 20 feet high.

In San Francisco in 1914–15, sculptor Willis O'Brien made an eight-minute comedy, *The Dinosaur and the Missing Link,* in which ape-like people and a comical brontosaurus cavorted magically. Men and beasts were jointed models created in miniature and animated frame at a time, 16 photographed positions yielding one second of screen time. This and a sequel, *Birth of Flivver,* were sold to Thomas A. Edison Productions for $500 – $1 per foot. O'Brien made several other prehistoric comedies for Edison by this painstaking method during 1916–17, such as *RFD 10,000 B. C., Morpheus Mike, Prehistoric Poultry,* and *Curious Pets of Our Ancestors.*

In association with Herbert M. Dawley, O'Brien brought reasonably authentic, convincing dinosaurs to the screen for the first time in *The Ghost of Slumber Mountain* (1919), a two-reeler which was popular and profitable. With technical advice from Dr. Barnum Brown, a leading paleontologist, O'Brien created and animated a half-dozen monsters – a brontosaurus, an allosaurus, two triceratopses, a diatryma (a giant flightless bird) and a snake, all of which moved, fought and menaced excitingly. *Along the Moonbeam Trail,* released by Dawley in 1920, after he and O'Brien parted company, added a stegosaurus and

The sight of a dinosaur on the river caused quite a stir in the Ivory Coast.

a trachodon to the cast. Dawley claimed the beasts and the process as his own, but they may in fact have been O'Brien's work.

An animated brontosaurus, creator unknown, supported Buster Keaton in his classic comedy, *The Three Ages* (1923).

A large scale brontosaurus mockup appeared in the Fox comedy, *Fig Leaves* (1926) as the pet of Adam and Eve (George O'Brien and Olive Borden). A large triceratops waddled through the Laurel and Hardy cave man two-reeler *Flying Elephants* (1923), and was used again by producer Hal Roach in an Our Gang comedy.

The epic dinosaur film of the silent era appeared in 1925, after years of work. This was First National's *The Lost World,* a 10-reel version of the Conan Doyle novel for which O'Brien animated no less than 49 dinosaurs, all constructed intricately by Marcel Delgado. Actors Wallace Beery, Bessie Love, Lewis Stone and Lloyd Hughes were introduced into the same frames with the dinosaurs by means of stationary mattes and the Williamson traveling matte process. The photographic effects were by Arthur Edeson, ASC, Fred Jackman, ASC, Ralph Hammeras, ASC, Devereux Jennings, ASC, Homer Scott, ASC and Vernon Walker, ASC. The picture was enormously successful.

O'Brien and Delgado teamed with cinematographer Karl Brown, ASC, in 1930 to make a dinosaur extravaganza at RKO-Radio called *Creation.* In 1932, the project was aborted and O'Brien and his crew were put to work on *King Kong,* released in 1933 and still a perennial audience favorite. Some superb bits of *Creation* footage survive. Some of the *Creation* animals and sets appear in *Kong* and its sequel, *The Son of Kong.* The popularity of the dinosaurs as adversaries of the giant ape, Kong, was demonstrated by default more than 40 years later, when a very expensive remake by Dino de Laurentiis omitted the dinosaurs and bombed out at the boxoffice, despite its dazzling photography.

An attempt to produce *Lost Atlantis,* a picture of similar scope, was made by Harry Hoyt, author-director of *The Lost World* and *Creation,* and Fred Jackman, who had quit his job as director of special effects at Warner Bros. to establish his own effects company in Burbank. Two reels of animated model footage were produced during 1938–39 for Columbia, which decided the picture would be too expensive to produce. Cartoon producer Walter Lantz and Edward Nassour then made another reel in Technicolor using small dinosaurs, but they too abandoned *Lost Atlantis* when excessive time and cost became apparent.

O'Brien was similarly unfortunate with *War Eagles*, which he and Delgado were making for MGM in 1939–40. The outbreak of war in Europe and the return to military service of the producer, Merian C. Cooper, ended the project after some exciting footage of Vikings, giant eagles and several tyrannosaurs had been filmed in color.

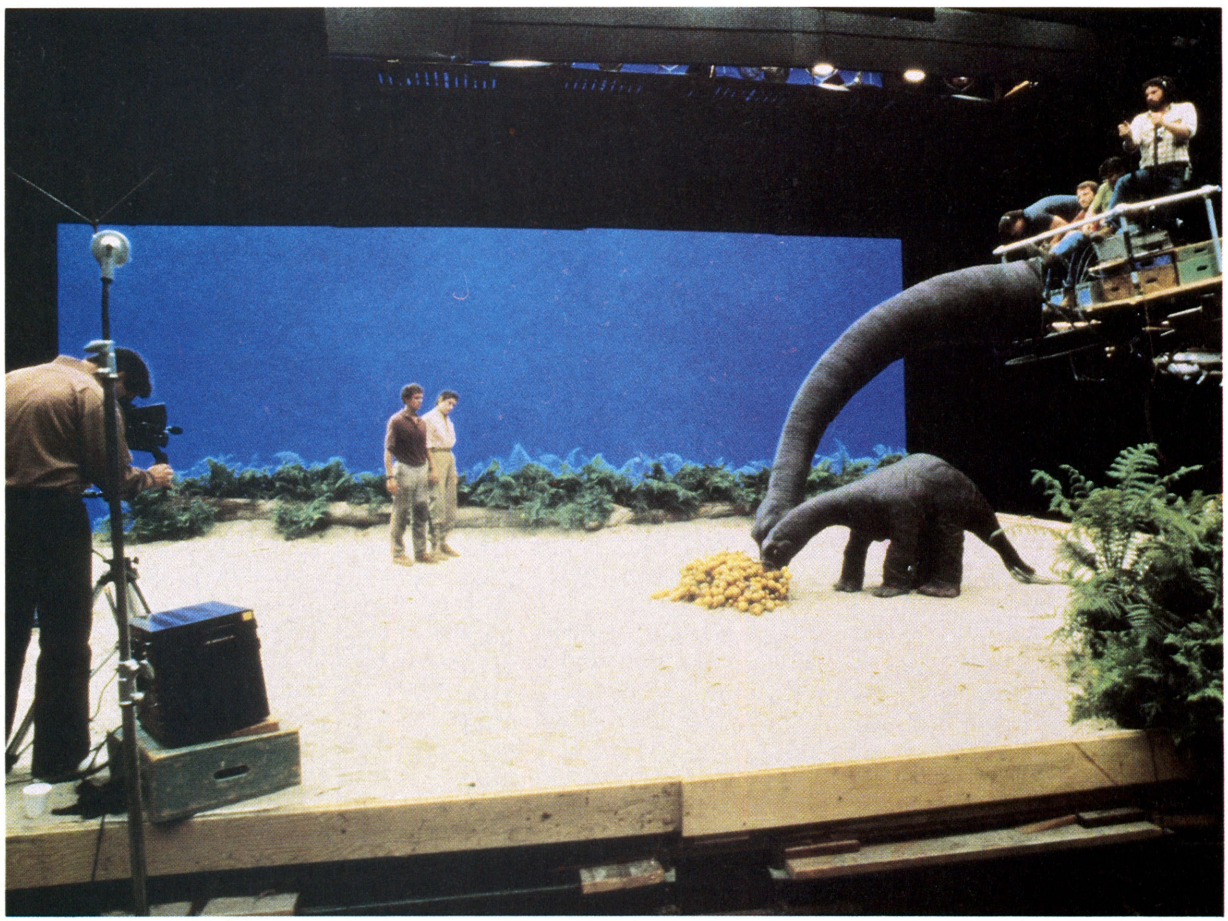
Hal Roach's production, *One Million B. C.*, was one of the biggest hits of 1940. Iguanas, monitor lizards, alligators, tegus, armadillos and other living animals, suitably disguised, made effective monsters when combined optically with the actors. Less convincing was an actor in an allosaurus suit. The largely impeccable effects work was by Roy Seawright, Frank Young, Fred Knoth and William Draper.

O'Brien worked for RKO-Radio during most of 1942 on *Gwangi*, a story about dinosaurs found in the Grand Canyon by cowboys. RKO cancelled the production because the Gallup Poll (which also projected Alf Landon as winner of the 1936 presidential election) reported that the public did not want to see a picture about dinosaurs.

Unknown Island (1948), in Cinecolor, featured men in ceratosaur suits and mechanical creatures created by Ellis Burman and photographed by Howard Anderson, ASC. *The Lost Continent* (1951) utilized animated model dinosaurs credited to special effects director Augie Lohman. Ray Harryhausen, one of the outstanding dimensional animation artists, created the impressive rhedosaurus, a fictitious dinosaur, for the successful *Beast From 20,000 Fathoms* (1953). The Czech master, Karel Zeman, created a bevy of authentic-looking animated dinosaurs for *Journey to a Primeval Age* (1954).

In Japan, effects expert Eiji Tsuburaya made the first of the long running *Gojira (Godzilla)* series, the 400-foot dinosaur being played by a man in a baggy costume, in 1954. An animated allosaurus by Jack Rabin and Louis DeWitt made trouble for Mexican ranchers in *The Beast of Hollow Mountain* (1956). The superb collaboration of Ray Harryhausen and Willis O'Brien brought to life a group of animated and mechanical dinosaurs in *The Animal World* (1956). For *The Land Unknown*, (1956), Fred Knoth and Clifford Stine, ASC, menaced Jock Mahoney and his friends with live reptiles, mechanical creatures and a man in a tyrannosaurus suit.

O'Brien's last dinosaur was *The Giant Behemoth*, (1958) an English film with a fictitious dinosaur. The British *Gorgo* (1959) was a cousin to *Gojira*, done in a similar technique but considerably better otherwise. Delgado built a brontosaur and a tyrannosaur for *Dinosaurus* (1960), with effects by Gene Warren, Tim Barr and Wah



Blue screen work with the dinosaurs was done at the Disney studio in Burbank.

Chang. *The Lost World* was remade in Cinemascope in 1960, with L. B. Abbott, ASC, as effects director, this time using live reptiles. Another fictitious dinosaur, and a mighty poor one, was featured in the Danish film, *Reptilicus* (1963). This skinny creature was a puppet.

A dinosaur lover's gourmet feast is *One Million Years B. C.*, Ray Harryhausen's 1969 remake of the 1940 film. The models were designed and animated to the king's taste. Harryhausen followed up two years later with *The Valley of Gwangi*, the realization of O'Brien's aborted project of 1942, with numerous excellent dinosaur sequences.

When Dinosaurs Ruled the Earth (1971) had a poor script but marvelous animated dinosaurs by Jim Danforth, assisted by David Allen and Roger Dicken. Dicken introduced rod puppet dinosaurs in *At the Earth's Core* (1971), with partial success. Wah Chang built and animated a number of dinosaurs for his fine educational film, *Dinosaurs – the Terrible Lizards* (1976). *Planet of the Dinosaurs* (1977), a low budget picture, had very good animated dinosaurs by James Aupperle, Stephan Czerkas, Doug Beswick and Jim Danforth.

A real delight is *Caveman*, (1981), the picture that dared to depict a fat and comical tyrannosaurus. The models were made and animated by David Allen.

The most recent version of a Hollywood dinosaur appears in Touchstone Film's new movie *Baby*. The plot revolves around the discovery of not one, but a family of brontosaurs in contemporary Africa. The family was designed and the construction supervised by Isidoro Raponi. Izzy, as he is called on the set, is Italian and with his former partner, Carlo Rambaldi, has worked on an impressive list of mechanical effects. Beginning in America with DeLaurentiis' *King Kong*, he also worked on *Close Encounters of the Third Kind*, *E.T.*, and *Alien*. Even with this kind of experience Izzy saw *Baby* as his greatest challenge.

Susan (Sean Young) and George (William Katt) camp out with their friend.

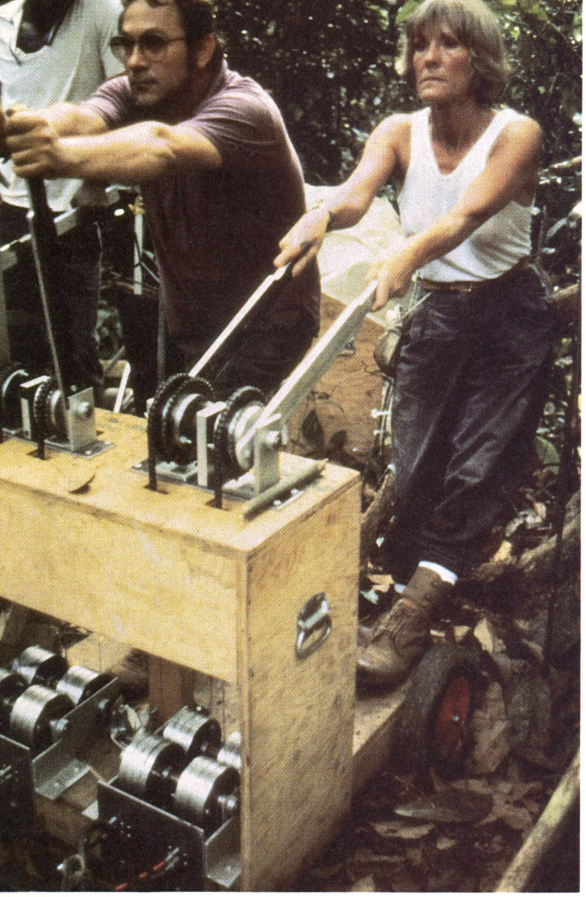
"I was surprised when we did *King Kong*, but when I think back, *King Kong* was simple. The most difficult thing about *Baby* is the shape of the animal. The support for the animal is horizontal. Normally when I have made supports for creatures it has been vertical. In my 23 years of experience, this was my hardest job. I was scared to start."

Who wouldn't be? Raponi had to build two full scale dinosaurs over 40 feet long, 11 miniature dinosaurs (in quarter scale) – two each of the mother and father and seven babies, plus two full size, all mechanical necks and heads. There were a number of problems that concerned Izzy and his crew. Originally everything was to be shot in Africa. The production hoped to avoid having to match lighting and terrain. All the preparations were made keeping in mind the African climate – very humid – and the African lighting – very grey with few shadows. In the end, the miniatures and much of the full scale photography had to be done in Burbank on the Disney sound stage.

The mechanical parts of the various beasts were milled out of aluminum, plastic and brass whenever possible because of high humidity and lighter weight. Originally, the miniature animals were built with articulated, cable controlled necks and tails. After a person was actually inside them, it was obvious that the tail movement was much better if it was left free of the cabling. It counter-balanced the body much as a real tail would. On top of the mechanical part of the beast were his foam muscles and two layers of foam skin. In a sense, this is the middle of the story. It really began by discovering the perfect person or persons for the dinosaur parts.

"The first thing we had to do was find the right kind and the right size of people to go inside the suits," continued Raponi. "First we thought about midgets. We interviewed a few midgets who thought they were strong enough; we did body casts of them in the correct position and we sculpted the baby dinosaur to fit their bodies. When it was time for a test we found that these people were too weak in the lower back. Most of the weight was on the back. We modified our design and started interviewing other people under 60 inches tall.

"We found that the people who could handle the weight best all practiced karate. They had good control of their bodies and they could walk on all fours without moving the back."

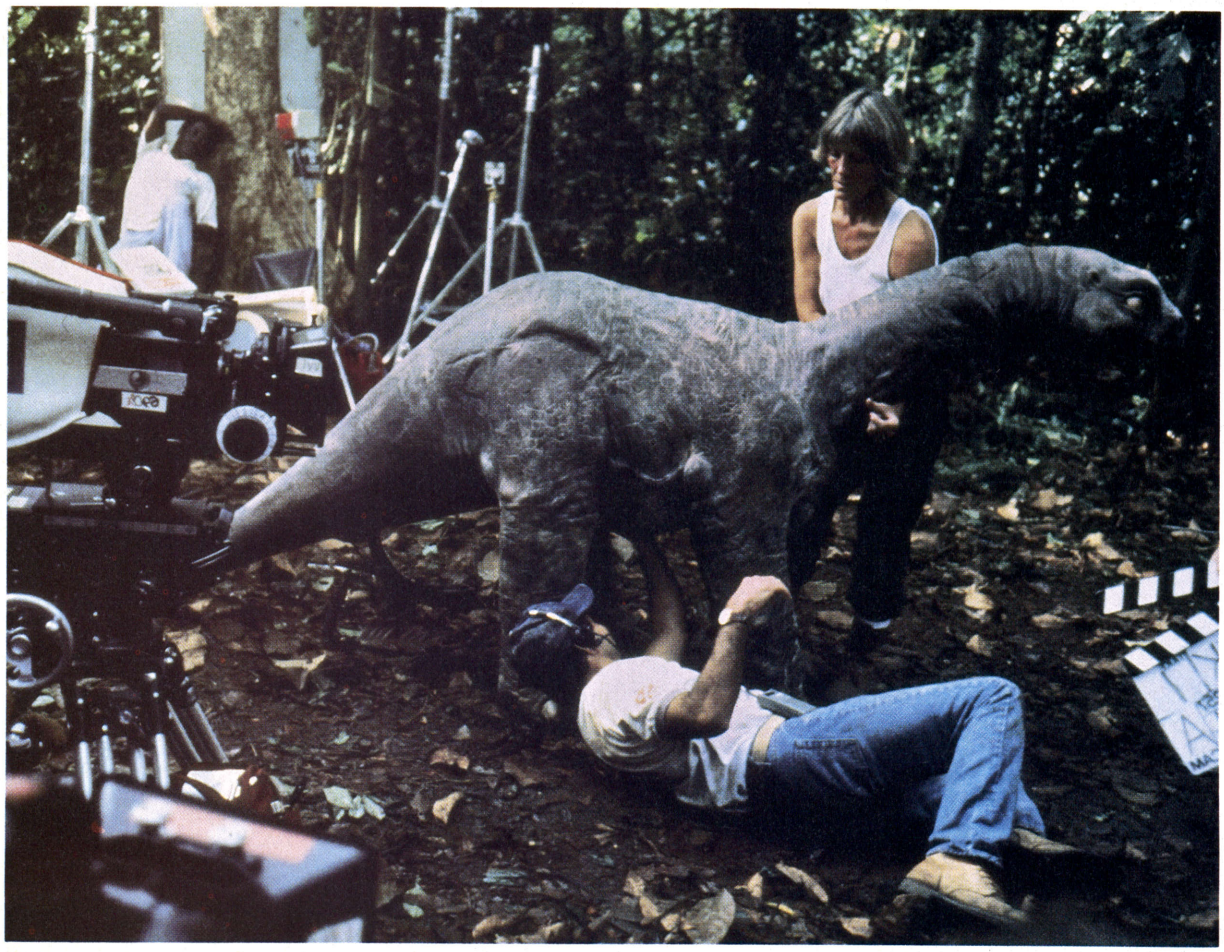


Once the body cast was made the entire dinosaur was sculpted around the casting. A plaster cast was made of the whole creature and then a series of molds were made inside this negative of the sculpture. There is, in effect, a mold for the outside layer of skin, a mold for the layer of muscle that goes next to the skin and a mold for the space the mechanical skeleton takes up. Quipped Raponi, "We have a backlot full of plaster molds."

The molds themselves are plaster but the material used in the molds is flexible. The skin is a latex foam which has to be cooked in an oven. It has five components and the mix is very critical. The foam is injected into the mold in the air space between plaster pieces with a thing like a syringe and cooked for five or six hours. "Before we made *Baby*, this foam had only been used in little molds – maximum one face. We did a tail that was 21 feet long!" recalls Raponi. "They said it couldn't be done, but we tried it. We had 30 seconds after the foam was mixed to inject it into the mold. It took 5 or 6 people and they all had to work at the exact same time. Of everything we did, we have very few pieces that did not turn out.

"Sometimes the foam would gel because we could not control the temperature. It was supposed to be at 65 degrees all the time, but we could never find a place that was always 65 degrees. So we used one formula in the morning, changed it in the afternoon and again at night."

Because no one has an eyewitness account of what a dinosaur looks like, part of Raponi's early work was research to discover what was known. Many of the country's leading authorities were contacted. One expert brought Raponi plaster molds of



As many as 24 cables were used to control the movements of the dinosaurs supplementing the movement of actors inside the creatures. The original plan called for the entire film to be shot on location in Africa but this proved impractical.

what is thought to be dinosaur skin. He also studied the skin on elephants. It was decided that the baby would have a fresh texture because he was young. The parents, though, would have scars on their skin to reflect their lives in the water and the jungle.

The brontosaur designers also took a little artistic license with the head. At first they were afraid it looked too much like E.T., but the demands of the script also made a change necessary. In the script the dinosaurs do a lot of sniffing. Apparently, dinosaurs nostrils were high on their heads. When they sniffed they had to do it with their heads lowered. "That movement on film looked ridiculous, so we moved the nose closer to the mouth so they could sniff better," Raponi said. "Who is to say we are wrong? Is it us or is it the reconstructions? Nobody knows. We also changed the toenails. They supposedly were curved, but curved toes were very difficult for people to walk in so we changed to elephant toes. It is approximate. Nothing is exactly right, because no one really knows."

Once the suits were completed, the actors inside had a week or so to practice being dinosaurs. According to Ken Eiland, one of many people who portrayed one or more of the creatures, it wasn't too bad. The mechanical suits weighed about 25 to 30 pounds and the radio control models weighed about 50 pounds. "That isn't too bad," said Eiland, "just a little hot." Foam is an excellent insulator. The shots were done under 10 or more arc lights, so it was warm outside to begin with. The body heat trapped inside the suits had practically no place to go and on at least one occasion, it was 140 degrees in the suit after a shot. Just a little hot!

The actors had to practice keeping their backs flat while walking around on all fours. They had extensions for their arms to level them, but once the movements were perfected, the real trick was to repeat them three times faster. (The reason for speeding up the movements was to keep it in scale with the larger animals.)

The people inside the suits were not the only ones who had to learn to act like dinosaurs. Each of the miniatures had as many as 24 cables controlling the finer movements. One cable for the eyes, one for the eyebrows, one for the nostrils, one for each lip, etc. These people could not just learn to move on cue, they had to learn to act and react like dinosaurs, only three times faster!

Thus, *Baby* assumes its place in the history of dinosaur movies, which, Gallup to-the-contrary-notwithstanding, are the kind of movies audiences love. ■

Scientific research was combined with poetic license in the design of the brontosaurus.

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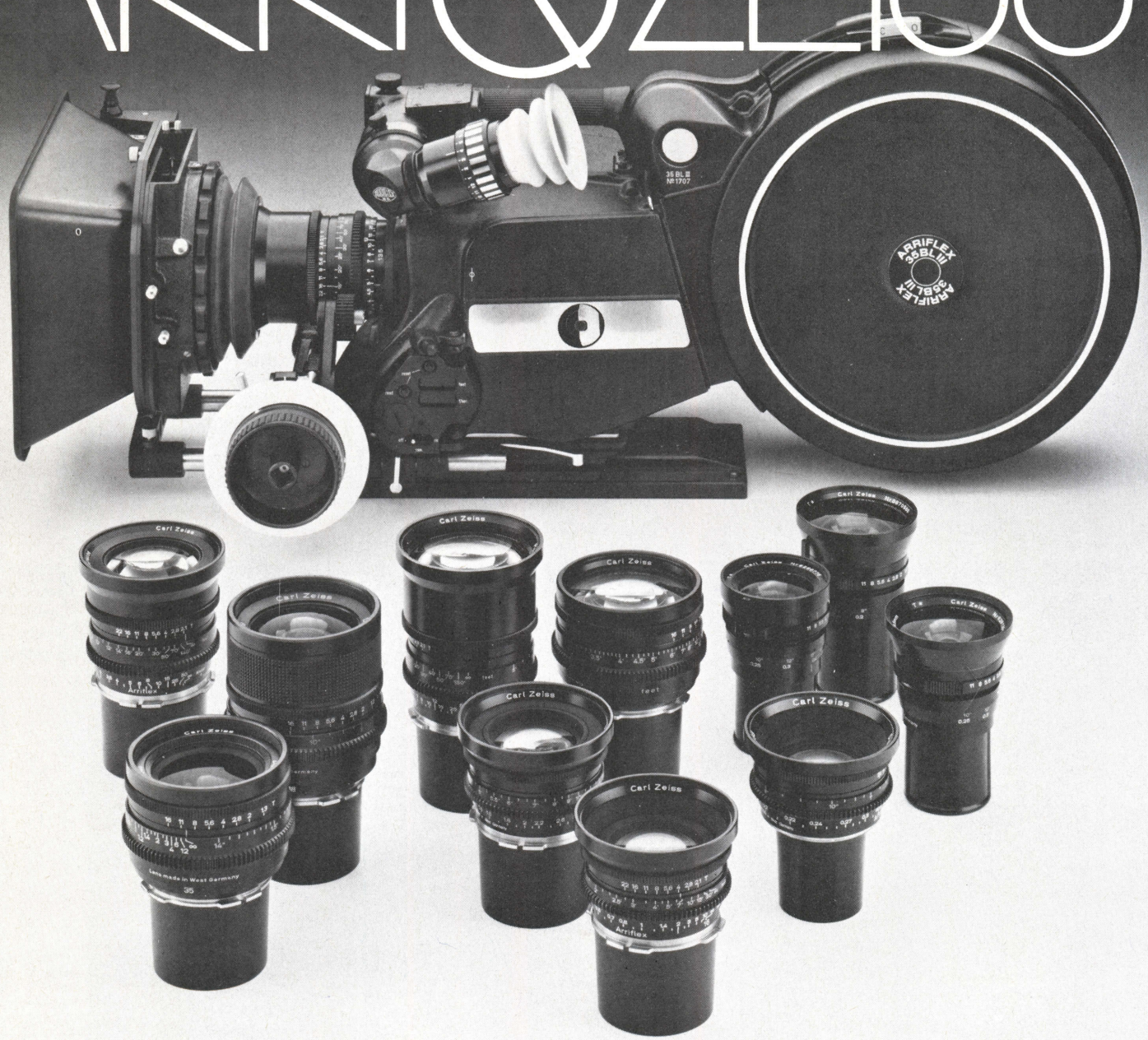

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BABY

An Interview with John Alcott by Mitch Tuchman

To stand sweltering beside a largely British crew on the West African locations of Walt Disney's *Baby* is to recall Noel Coward's dictum that "mad dogs and Englishmen go out in the midday sun." It is a relief therefore that John Alcott's photography is brisk.

"I always thought that to have beautiful light took hours and hours," producer John Taplin explained in praising Alcott, his director of photography on this film as well as on his last, *Under Fire*. "It was a kind of frustration that you had to go through. John manages to make it beautiful without taking hours."

Saharan dust blows southwesterly across the African continent toward its Atlantic shores. To a cinematographer like Alcott with a predilection for natural ambient illumination, this harmattan is a godsend. It diffuses the scorching rays of the sun, reducing the contrast between bright light and shadow, reducing the time otherwise spent addressing it.

But Africa is not all blazing heat and blowing dust. The jungle near Abidjan, capital of the Ivory Coast, is so dense that it obscures the sun at noon and all but eclipses it by four. Alcott speaks of this rain forest as "the interior." What he forgoes there in the way of artificial lighting, he more than makes up for in pre-production cunning.

Picture, as he did, a dusky jungle clearing (where up to half of *Baby* was shot), and bear in mind his goal: a wide-screen adventure (about an American couple who find a family of living dinosaurs) with the "glory of what's here" established in every long shot. For that he needed depth of field, which anamorphic lenses at low light levels cannot provide. Alcott's solution (as it was on *Greystoke*, shot earlier in nearby Cameroon) is Super-Techniscope, which yields an anamorphic print based on flat photography. Super-Techniscope permits Alcott to use his favorite Arriflex lenses with wide-open apertures and still to achieve, as he did in the candlelit sequences of *Barry Lyndon* and the snowy, moonlit maze of *The Shining*, that depth of field crucial to the narrative. After all, when the title character of your picture is a baby brontosaurus, it must be completely credible as a jungle denizen.

***John Alcott and the camera crew for* Baby.**

Alcott says, "The most important thing for me was the

***Alcott used soft lighting to supplement the natural light in the jungle for most of* Baby.**

skin texture, making sure it didn't look artificial. I was concerned with finding out what colors related to the inside of the body. You know, certain animals have tendencies to be, say, pink or blue in certain parts of the body, especially over the eyebrows or under the cheeks; under the throat can be dark. When I first saw the prototype, it was very plain and very kind of pastel all over. There was no texture that made you think that it was living. The movement of the eyebrows and the cheek and the nostrils: that was fine. But you still didn't believe that the pores were there.

"One doesn't know anything about dinosaurs, except for what one reads. One's never actually seen one, so therefore one has to imagine what it's actually going to be, and I think this is probably what has happened now.

"We waited until the finished animal was ready to shoot a test. Then we shot the test and found there were different aspects of the dinosaur that we needed, or I needed, as I say, like the nostrils and the eyes. It was important, for instance, that the eyes were movable and moving in a direction which would make the dinosaur look like it was looking at a certain object. It seemed to me that the eyes were related to the lizard; you know, they've got something like 180-degree vision. It's not like the human being, where both eyes go to the left or both eyes go to the right. The first thing was to try to make sure it wasn't going to be green in any way, because otherwise it would be very hard to distinguish from the jungle itself, the undergrowth and the interior. Then, from those tests that we did in L.A., we came directly here (Africa), and that was, again, a trial-and-error situation: whether it was better looking wet or dry.

"There (in Los Angeles) you've got a dry atmosphere, and here (in the Ivory Coast) you've got a humid atmosphere. Here I make everything as damp as possible and as wet as possible. I mean, your own skin in Los Angeles is dry. When you come here, it's smooth. So you can't overlook that."

Trying to perfect the walking of the baby dinosaur, was the most difficult thing, according to Alcott "with a human element inside to accomplish an animal movement – which they've done very well – it's very difficult. It's not just a matter of getting into the thing and walking or trying to walk. One has to study the movement, whether they move forward or sideways or what you call quadrangle-type movement. E. T. is something that nobody has ever seen, and therefore you can get away with any type of movement. But because this is a dinosaur, and therefore an animal, to get somebody, a human being, to make that move in a perfect state is virtually impossible. So one has to kind of cover it up by having people, like the artists, Sean Young and Bill Catt, artificially help. They help to cover up the imperfections that are there.

Baby works better in a close-up than a long shot. Alcott says: "I think you have to see it in long shot, and I think you then have to cut to a close-up as much as possible because that's where the sympathy is, in the face. I mean, it is a sympathetic character. That's where it all comes: in the eyes and the mouth and the nostrils. That's where the main effectiveness of the dinosaur is operated."

The African terrain is very moist and very slippery; it was very difficult for the stunt people inside Baby to walk, especially up hills or on slippery mud.

About lighting the jungle scenes, Alcott maintains that's the easy part. "The jungle can look best in whatever kind of charac-

teristic light you need. If you need a dramatic shaft of light, then you need sunlight, and there are certain areas in this film where this works, but there are other areas where it's far better to have the overcast clouds, soft-light sky, because the leaves and the green of the jungle become more effective with that style of lighting. We get the overall soft lighting from the sky, which creates, when I wet down the jungle, the highlights. So it's a matter of highlight and shadow, but a soft highlight and shadow. It's not a harsh one from direct sun. The style of photography for this picture, being semi-drama and sympathetic and light, does not call for too much dramatic style lighting in the jungle. Therefore this overall lighting with a soft sky blends in more, gives it a more cheerful look.

"I noticed when I first came, or from my experience before with *Greystoke* in Cameroon, that if I didn't saturate the jungle, the leaves and the foliage became very pastel, very plain, and with no life. It's tremendous, the quality one can obtain by this method of saturating the jungle. Also – and I'm getting into the technical side now – I shoot the film with no filterization whatsoever, no correction filterization except for ultraviolet. Therefore that tends to overexpose the blue and green record more than the red. And as there's more blue and green within the jungle area than there is red, this, again, brings more brilliance out. In other words, I believe by the correction of the 85 filter I would be killing some of that vivid green that is there.

"People all said to me on *Barry Lyndon*, where did I get the beautiful greens? Well, I didn't get them anywhere. They were there. They were there for the eye, and I think that the filterization that is recommended by the manufacturer of the film is recommended because that is the correct way that one should use Eastman 5294 if one tends to go the correct way. But if you're going to live dangerously, I think you should experiment, and the way I've found experimenting is to do what I've done. I seem to get the results that I think are better from the green foliage point of view by not using a filter rather than using a correct filter.

"It has to be up to whatever degree of style of photography you want. I mean, if you want a style of photography where you want a very hot sun, and you're in a desert, and you really want to make the thing warm, that's not the right way to go. Then you would warm it up. You would kill your blues as much as possible and increase your warmth, and therefore you definitely would need an 85 and perhaps even more correction.

"With the new stock that they've come out with, a 400 ASA rating, and without using a Wratten 85, the film is much faster. I can get more speed from the film. I can shoot later than if I was using a Wratten 85. When I say 'later,' in the heart of the jungle, in the real interior, you can shoot up till about four o'clock or four-thirty. Somebody may say, 'Oh, that's not very late,' but it is because it is terribly dark in the interior. Without 94 film, it would be impossible to shoot with natural light; one would have to add light. Then, of course, if one adds light, it defeats the object of coming to get the glory of what's here."

Alcott demands natural light for his work. "Absolutely, absolutely. On every film, yes. I must always, no matter what the scene, try and create a source of light from somewhere within the scene. I think if a film was suggested to me where there was a night scene in the middle of a meadow, I would either try and emphasize that there should be a source – and if it was a short scene one could use moonlight as a source – but it really would not be as effective as changing the location to somewhere where one could have a fire or some source that would be legitimate."

All the jungle footage was shot with natural illumination.

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A miniature set of the village was built on the stage in Burbank for the destruction scene.

"The only time I created something different was if we had a dawn shot. Then I used very large white sheets, sixteen by sixteen, and bounced reflected light on them from a left or right side to give it a kind of dawn effect that is different from the day. But that's fine because, when one is shooting the dawn, one is making it more of a low-key style photography, so therefore one's not going to that vivid green anymore."

With reference to his camera system Alcott talked about Techniscope: "Years ago, about the 1950s, they came out with a system called Techniscope. Techniscope was a two-perf-pull-down system, which was within the Academy aperture, not using the sound track. That was then squeezed, on a two-to-one squeeze, onto a full Academy aperture. By doing this, one created in those days what might be called an anamorphic print. At the same time it was possible for certain producers and certain production companies to use less film; they were only using half the quantity. They were therefore saving on their costs in that area, and they weren't in for expensive camera rentals, as Cinemascope systems were in those days. This helped the independent, small producer to have an anamorphic print on the screen without getting into a high budget.

"With this Super-Techniscope system, what happens is, I'm using a full frame. I'm using the sound track, the full aperture of the camera. I'm using more negative. I'm still using the four-perf pull-down. And what I'm also using is the head room of the anamorphic ratio as the head room of the 70mm print and also as the head room of the television print. Then I'm making a two-to-one squeeze with a 2.35 ratio.

"The trouble with shooting anamorphic pictures I found years ago when they first started, is that 70mm prints were made, and therefore one had to compromise when composing the shot. One had to think of the 70mm print and would lose on each side a certain portion. Also when one is televising any anamorphic print, one has to scan, and sometimes if it's not done properly and nobody cares, you see half of one face and half another. It's ridiculous.

"This way of shooting eliminates all those problems. One has a perfect anamorphic composition, one has a perfect 70mm composition, and all one's having really on the TV print is additional room at the bottom of the frame.

"The thing that's most important is that the depth of field is far greater shooting anamorphic this way than shooting it with an anamorphic lens.

"People may say, 'Well, films are faster now than they were years ago.' Well, of course, they are; they're all faster. The thing is, with this movie we are in an area where light fails at four o'clock, so therefore it's not faster in reality. To shoot a scene at T.2 with a 25mm lens and the equivalent, to have to shoot it with an anamorphic system of between a 40 and 50mm lens at T.2, there's no comparison. There's a comparison

in definition, but not in actual depth of field. It's also a much easier way of shooting. It's more portable, I think, than anamorphic lenses. I believe also that the choice of lenses I have is far greater. Another thing that worries me with anamorphic systems is flares.

Alcott says his contrast filter is his Polaroid camera. He takes Polaroid shots of every setup and gauges his exposure from the Polaroid, not from a meter. The exposures are in black and white, from which he judges the highlights and "... then I know that the shadows are a separate issue. I think if maybe the Polaroid had been invented before the light meter, I'd be the funny one using the meter now."

Alcott started on *2001* as an assistant cameraman who was given the exposure by the director of photography, Geoffrey Unsworth. He would then relate the exposure to his Polaroid. On *Baby*, Alcott estimates he took about 2,000 Polaroid shots and that is an average per picture. Alcott uses the Arriflex camera system exclusively. In addition to camera superiority for his purposes, as he explains, the company made him matte boxes for neutral density and color graduating filters when there was nobody else to do it. He believes the Arriflex look-through system to be superior to others and that the lens apertures are more consistent.

The British system of shooting is described by Alcott as a system where the operator is an important part of a camera unit. "If I tend to control the operator or interfere with his work, then, to me, he doesn't become an operator; he becomes a person who just points the camera. The only way he will, to my belief, become a great operator is that he must have freedom himself. He is looking through the camera all the time, and he's the one who has to make his mind up whether the composition is right or wrong. Therefore he should have freedom in the first stage to choose his setup.

"Now, if I find that I don't like it, and I think it's wrong, then I will step in and alter that fact. But if all the time I'm sitting there saying, 'You do this,' 'you do that,' 'you do this,' 'do that,' the man will never be able to use his own ability and will never really find out whether he has that ability."

"I'm used to that type of operator in England, but to come to the States and try to find somebody to work in my way wasn't easy. I was very lucky: I found Jamie Anderson on the first test that I did with *Baby*. I knew then that he was the person I was looking for. I believed he was. One can't be absolutely certain till one really works with somebody. But from the work I have done with him, I'm very pleased."

The second unit cameraman on *Baby* was Gil Vauxhall in whom Alcott places great trust, having worked with him on *Under Fire* and *Greystoke*, as well.

Until 1980 all of Alcott's films as a director of photography, though shot in Europe, were made for American directors, including four for Stanley Kubrick – *2001*, *A Clockwork Orange*, *Barry Lyndon*, and *The Shining* – and three for Stuart Cooper – *The Disappearance*, *Overlord*, and *Little Malcolm*. In 1981 he emigrated to the United States.

"In three or four months my wife said that I never looked better in my life. And when I went home to England, people said I never looked better. I was more relaxed, contented. I'm much happier," Alcott says of his new home. ■

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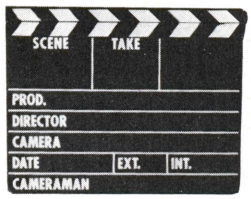

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Irene (Sabine Axema) pays a surprise visit to her father, the painter Ladmiral (Louis Ducreux).

Photographing

A SUNDAY IN THE COUNTRY

Donald Chase

It's said of many films that the look is part of the story, and often enough it's true. But it's truer than usual in the case of the French film *A Sunday in the Country*, which won the best director prize for Bertrand Tavernier at the 1984 Cannes Film Festival.

"The film is about an artist (played by Louis Ducreux), about a period of time (the turn of the century), and about the evolution of light during the course of the single day covered by the narrative," Tavernier says. "I've described it also as being about the relationship between light and emotion. And I had very precise ideas about how it should look."

The task of realizing Tavernier's ideas fell to Bruno De Keyzer, making his feature debut as director of photography with *A Sunday,* after eight years as an assistant cameraman on films and four years of lighting and operating TV commercials.

"Bertrand Tavernier showed me a book of early color photographs, called autochromes, taken by the Lumière brothers," De Keyzer says. Just before the turn of the century, at the same time the Lumières were taking pioneering steps in motion-picture photography, they were also experimenting with color stills, developed in a bath containing raw potatoes. "The blacks in the autochromes were very deep, the whites very bright, the ochres very strong, but the other colors were lessened – the reds and greens were pale, there was almost no blue."

The autochromes also had considerable depth of field. In this respect, as well as in their color quality and use of light, they were the opposite of what was being done in painting at roughly the same time by the Impressionists. This was fine with Tavernier because the elderly painter in the film is revealed in the course of a visit from his son and daughter (Michel Aumont and Sabine Azema) to belong to the realist tradition that preceded Impressionism.

Trying to duplicate the look of the autochromes on film, De Keyzer shot tests that he gave to Paris' Eclair Laboratories with instructions to skip the bleach bath in processing positive prints. This kept the silver tones in the print, making the blacks and whites more contrasty. But as with Andrzej Wajda's *Danton,* which a year earlier had been similarly processed, the skin tones tended to become corpse-white and the eyes black sockets. There were also problems with the interior-exterior light balance – windows tended to burn out.

De Keyzer went on to test various blends of commercially available makeup with various degrees and types of diffusion until he got skin tones that pleased him

Gonzague (Michel Aumont) tries to retrieve his daughter (Katia Wostrikoff) from a tree during their visit to his father's country home.

Right: ***Irene's exuberance contrasts sharply with Gonzague's conservative nature.*** **Below:** ***Ladmiral waltzes with his daughter at the outdoor dance-hall.***

and Tavernier. Interestingly, evidence of the DP's selective use of low-contrast filters was virtually removed by processing without the bleach bath. And De Keyzer eventually found that the depth/light balance problem was best solved by lighting interiors, such as the living room of the painter's house, for T5.6 and the vista outside its open windows for T11. (About 90 percent of the film takes place in the house or on its grounds, which were shot on location at an actual house about 40 miles from Paris.) He used 4K and 6K HMI's and shot on Eastman 5293, of which it was difficult to get enough for an entire film, Paris, like Hollywood, having gone mad for the faster (but less contrasty) 5294.

Pre-production tests are, of course, mandatory on any film involving unconventional techniques and/or an unconventional look. They took on an added importance with *A Sunday in the Country* because of the film's 33-day shooting schedule and its budget of under $1 million – low even by French standards. But even though many problems were solved in De Keyzer's experimental footage, there remained the feat of combining the parameters decided on through the tests with Tavernier's determination to stage as many scenes as possible in one shot.

"The director wanted a lot of camera movement because he felt that for a period film of which the hero was an old man the classic master-shot-medium shot-close-up would be too static," De Keyzer says. "So there are many, many scenes that involved dollying to 18 or 20 different camera positions, with a change of focal length at each position. For this reason we shot the entire film on the Panavision 5:1 – 20mm to 100mm – zoom. For the operator (Jean Harnois) and focus puller and the grip it was a very difficult film."

The more so when you consider that the 18 or 20 camera positions in a single shot were not always precisely fixed in advance. That has to do with Tavernier's refusal, except in the most extreme circumstances, to give actors marks. "I will never stop a scene because an actor is in the 'wrong' place," says the director. "It's up to the technicians to adapt to the actors, to make wherever they go the 'right' place. The technicians must be ready to improvise, so that the actors feel as if they have all the space in the world, though, of course, they don't.

"In one scene where there were definite limitations on the actors' freedom of movement," Tavernier goes on, "we used one actor to help another. Louis Ducreux and Michel Aumont are walking, and Bruno told Michel, "If you see him (Ducreux) stop in shadow, take his hand and bring him into the sun. I was using the father-and-son relationship in the film to help me solve a technical problem!"

Things might have been marginally easier for the technicians if the Steadicam were able to achieve Tavernier's aesthetic and dramatic ends in *A Sunday in the Country*. "I used it in *Coup de Torchon*," he says, referring to his last film released in the U.S., after *A Week's Vacation, Let Joy Reign Supreme,* and *The Clockmaker*. "First of all, it broke with the traditional master-shot-close-up-reverse-angle of the classical French Colonial cinema." The film was set in French West Africa before World War II. "Second, and more

Ladmiral's granddaughter studies one of his paintings in his studio.

important, it has no fixity and that went well with the moral statement of the film. You're never on solid ground with the characters, you don't know what they're going to do.

"But the Steadicam would have been all wrong for the stable images I wanted in *A Sunday in the Country*. So we combined the zoom with camera movement – which helped hide the fact that we were using the zoom." The Tulip crane was also used in a few shots, such as the movement from a window in the house to the trellised arbor in the garden, but hardly enough to lighten the crew's burden.

Their tasks of lighting, dollying, and focusing were made even harder because of Tavernier's hatred of symmetry. "I don't like to have the camera precede or follow the actor at a uniform distance throughout a scene. I like to relate the camera movement not only to the actor's physical movements, but also to the emotion of a scene, what's happening inside the character, so that at times in a scene the actors are closer and at times farther away."

Bruno De Keyzer's task was probably never harder than in the scene involving a near-360-degree pan of the artist's studio. "Where could you hide the lights?" the DP asks succinctly, then answers his own question. "We put 6K HMI's outside the window. We also hung some lights from the ceiling, which was difficult, because it was low. We placed some fill at points around the room which had to be moved away as we approached them. And we put face lighting right on the camera itself – a little, 575-watt HMI for which we bought our own shutter. As the camera moved away from an actor's face the shutter would be adjusted to lower the light. As we panned to the next actor it would be opened to increase the light.

"I used artificial light in all the interiors," continues De Keyzer, "and I had the art director build special window shutters that could be angled to create, with the HMI's, shadows on the wall." So, even though in the final result the DP's lighting always looks motivated, he says that, for him, *A Sunday in the Country* was "an Expressionist film."

There were two basic reasons for lighting the house interiors artificially. First, the house was not well positioned for sunshine. Second – and regardless of the house's accessibility to sunlight – the shooting schedule did not permit it. Interior filming was reserved for bad weather or for very early or very late in the workday. The hours of sunlight were used to do exterior scenes that in the one-day story took place at roughly the time of day when they were shot.

The demands of the schedule and Tavernier's hatred of symmetry were both factors in the father-daughter dance-hall scene.

"I had two days to shoot the dance hall and it was raining all the time," De Keyzer relates. "The director said it was impossible to shoot, but I had this idea of covering it with a blue canvas" – effectively keep out the rain and turn the scene, at least for purposes of filming, into an interior, making this interior even colder by putting blue gels on the four 6K HMI's and four 4K HMI's with which he lit the scene added to the brightness of the uncovered exterior in the background. To enhance the effect of sunlight in the background, De Keyzer had the lab print the whole scene golden.

The dance-hall scene includes the film's first use of full, individual close-ups. "It is the first moment of real communication, real intimacy in the film, the kind of moment that happens three or four times in a lifetime," Tavernier explains. "You have to give a different value, a different structure to a moment like that. And it was also the weather, to be completely honest. With close-ups we could control the light better. But even here I tried to avoid symmetry; the shots are never on the same principle.

"With Sabine I'm moving around her and using a 100mm," he elaborated. "On Louis it's a 50 or a 55. But it's not just a philosophy or an aesthetic – it had to do with the relationship between them. Her emotion is so strong I had to have that movement around her. This was not planned – it came out organically when I saw the actors. But the fact that we could do it at all came from this brilliant idea of Bruno's to cover the dance floor."

"It was awful to shoot," De Keyzer admits, "and a miracle that it worked."

Given the scale of its photographic ambitions and the conditions under which it was shot, the entire film is something of a miracle. And Technicolor Labs in New York, following Paris' Eclair in skipping the bleach bath in processing the U.S. release prints, played an important role in making the U.S. witness to the miracle. ■

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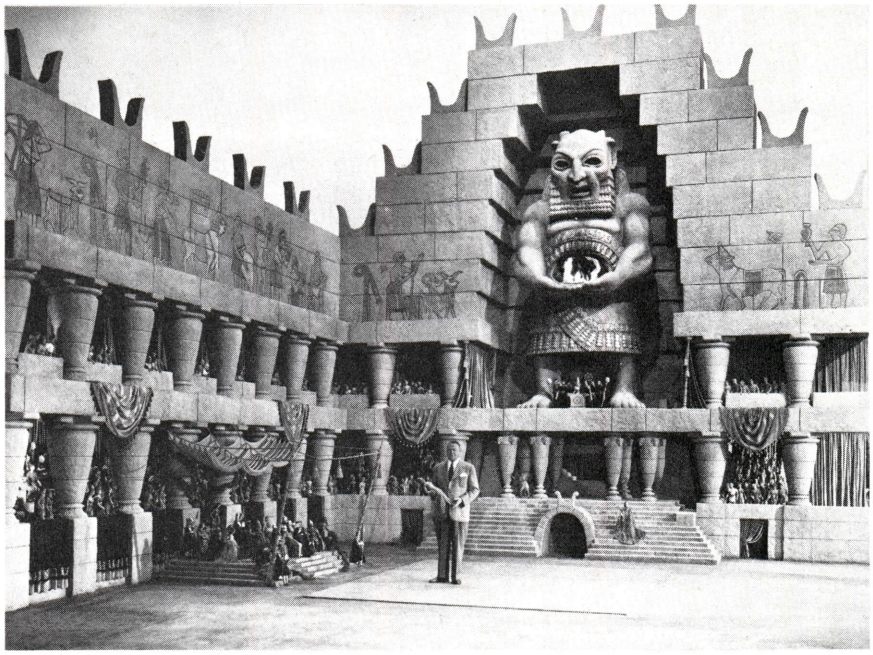

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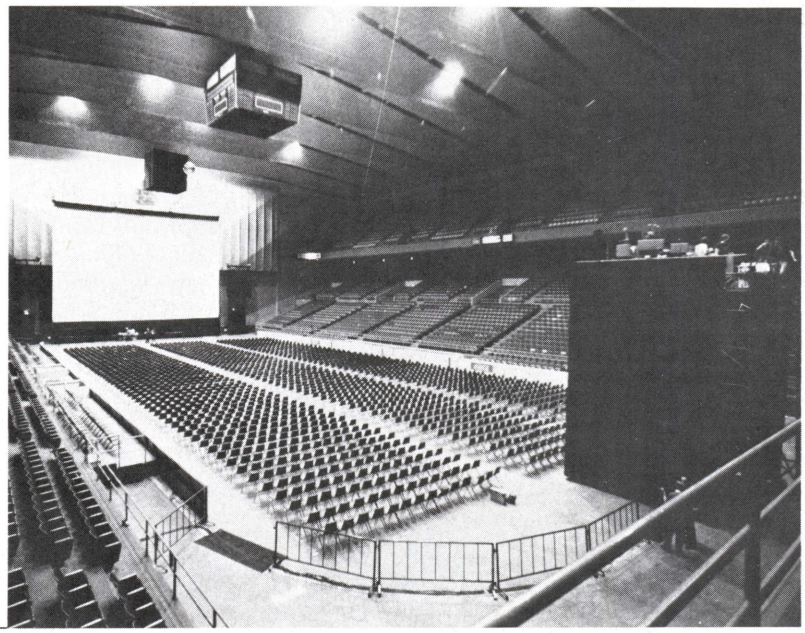
Bob Fisher

MobileVision & Dynavision for We Will Rock You

There is big screen, and then there is Big Screen: 60 feet tall by 80 feet wide, to be precise. If you have trouble visualizing a projection screen that tall, imagine a five-story building. This is taller.

Want more? How about an eye-boggling, razor-sharp image projected from a specially-formatted 70mm print, complemented by an ear-numbing, 50,000-watt sound system?

This is just the beginning of a description of the first bigger-than-big and louder-than-loud MobileVision spectacle—a concert film featuring the rock group Queen. This unique film, *We Will Rock You,* is the brainchild of producer/director Saul Swimmer, president of New York-based MobileVision Technology, Inc. It is the first of what Swimmer believes will be many MobileVision "media events" using the Dynavision format.



The MobileVision screen is 60 by 80 feet and made of a steel-reinforced man-made fiber. The specially designed projectors sit about 200 feet from the screen and about 30 feet in the air.

We Will Rock You took $3 million and two and a half years to develop. However, the potential for return dwarfs that figure, and the cost of presentation is only a fraction of the price of taking a group like Queen on tour. Furthermore, with the trial-and-error experience gained during the making and initial presentations of *We Will Rock You,* Swimmer believes that production time and costs for future projects could be trimmed considerably.

Why put a rock concert on film?

"Touring is becoming an out-of-date concept in the concert industry," answers Swimmer, who worked in the music field before directing *The Concert for Bangladesh* and producing *Let It Be.* "It is getting increasingly difficult to make a concert tour pay off because of rising costs, and many groups don't even want to tour anymore."

Swimmer sees MobileVision as a way for groups like Queen to perform for arena-size crowds in a Big Screen format which, in some ways, magnifies and enhances the experience of a live performance.

"Because of the sharpness of the image, even people sitting close to the screen are basking in sensory overload as Queen lead singer Freddy Mercury prances 60 feet tall, belting out songs, recorded on 24 tracks over the 120-decibel sound system which rivals the electricity of a live concert," he says.

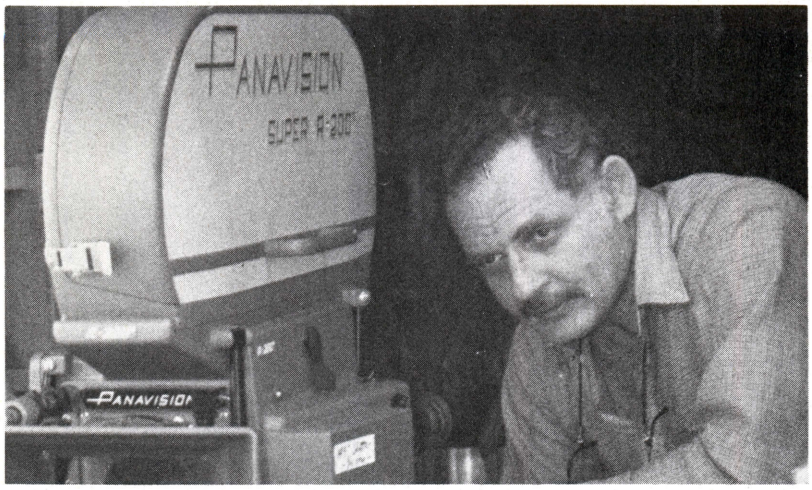
As a point of reference, MobileVision doesn't project from an image as big as IMAX; however, it costs much less to produce because it begins with a conventional 35mm negative exposed in conventional 35mm cameras. The 35mm original negative is converted to an eight-sprocket-frame height on 70mm film by Don Weed, of Film Effects International in Hollywood. Conventional 70mm film images are usually five sprockets high. By using an eight-sprocket spread, Weed creates an image twice as high as that normally used with 70mm film.

"I developed the eight-sprocket frame because it encompasses the most aesthetically pleasing aspect ratio—specifically 1.33:1, the same as IMAX. This ratio corresponds to an image size four feet wide by three feet high," explains Weed, who developed the eight-sprocket release print and projection system.

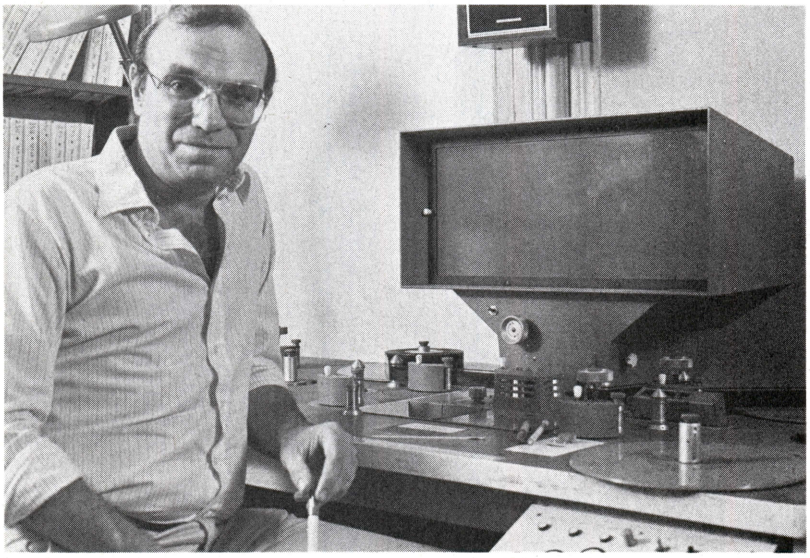
"Dynavision is designed to make it economically feasible for producers to present filmed events on a big screen," says Weed.

The emergence of the Dynavision format, as it is used for the presentation of *We Will Rock You,* was a collaboration between Weed and Swimmer. Weed had the means and Swimmer had the end. Or maybe Swimmer had the means and Weed had the end. it all depends upon how you look at a project like this.

Basically, to project a really big image, one must begin with a big piece of film, and that was where



Cinematographer Dick Brooks coordinated a crew of ten cameramen, none of whom had ever seen the rock group Queen perform.



Independent film producer Saul Swimmer scans some 35mm film footage from **We Will Rock You.** *The film was converted to 8-sprocket-high images on 70mm release print.*

Weed's expertise, based on 50 years of practical experience in the special film effects business in Hollywood paid dividends. (Editor's note: For many years, Weed has worked with Linwood Dunn, ASC, at Film Effects of Hollywood.)

The Dynavision system, under development for 10 years, uses a three-headed optical printer. This tool is used to composite original images and effects onto eight-sprocket 65mm negative film, which, in turn, is used to master 70mm prints.

Weed says that the large blowup requires very precise film manipulation for the purpose of minimizing grain and maximizing resolution. "Anytime you go from one generation of film to the next, you can anticipate some buildup of grain and loss of resolution," he says. "However, because of the large-size images we are dealing with, any loss in image quality would be greatly exaggerated with Dynavision. So, we have done everything that is humanly possible to iron out wrinkles which could affect the quality of the opticals."

This includes very precise timing and meticulous wedge testing as prerequisites for making the opticals. For example, 27 different print tests were run just to determine the most effective filtration for *We Will Rock You.*

The film genealogy of the Queen film is: Start with an original on Eastman color negative film 5247, and copy that onto a fully timed CRI (color reversal intermediate) on 35mm Eastman color intermediate II film 5243, which, in turn, is blown up to a 65mm eight-sprocket internegative also on 5243, which is used to generate a 70mm print on Eastman color print film 5383.

As with all process photography, the end-result can never be any better than the quality of the original negative. This task fell to Richard E. Brooks, who functioned as director of photography as well as number one camera-position operator.

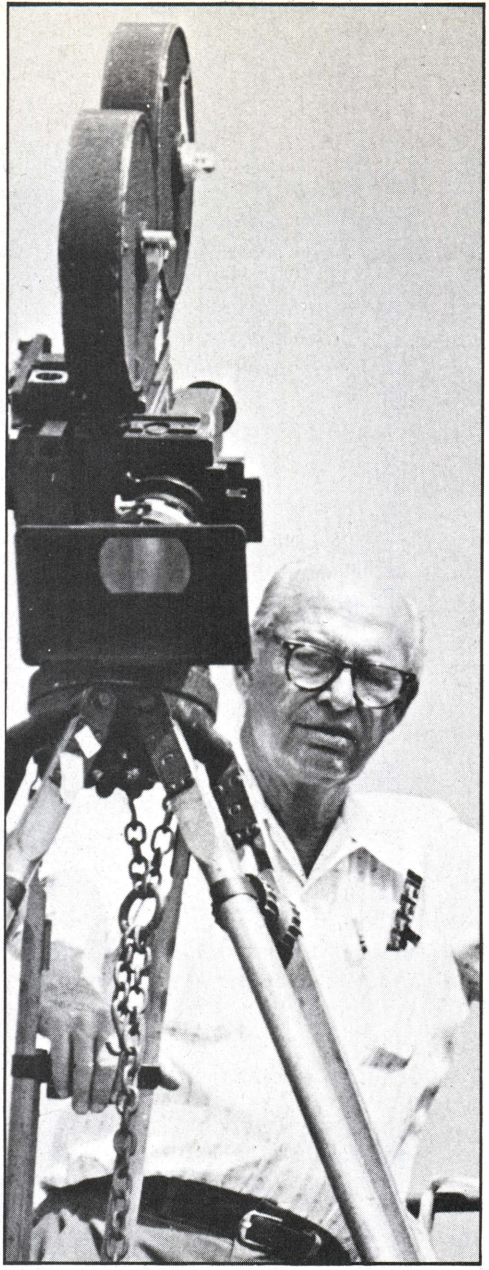
The filming took place during two live Queen concerts performed in Montreal on two successive nights. Brooks used 10 cameras (two Arriflex BL and eight Panaflex cameras) equipped with carefully matched Cooke zoom lenses (25 to 250mm and 20 to 120mm, depending upon camera position).

Brooks knew only two of the cameramen, whom he had brought with him from New York; the concert was filmed at the forum in Montreal. However, he made certain that there was no chance for miscommunication. "I spoke individually with each operator, and told each exactly what I needed and what I expected," he says. "I tried to resolve all questions before we started exposing images. I wanted all the operators to fully understand why they had to be four times more careful than they would have to be on a typical 35mm shoot. Any crazy, jumpy moves or quick pans would be greatly magnified in the large format. A move which is too slight to attract attention on a conventional-size screen could be a major distraction with MobileVision. I also told them not to play it safe, to go for the most interesting images, and to use both long focal lengths as well as wide shots."

When planning the filming of a concert, coverage—and, therefore, position—is everything. Brooks carefully placed nine of the cameras in front and at a 45 degree angle to the stage, both in the middle and back of the auditorium. The 10th camera was designated as a roving unit. Each operator was assigned an area of coverage, and Brooks had the assistant cameramen mark focus on each lens by measuring the foot positions on stage where the singers were supposed to be.

"Supposed" to be is the operative word, notes Brooks.

"I had very little time to prepare," he says. "I had never seen their show before, so I relied on Saul's (Swimmer) direction and what little I had seen on stage. I knew that Freddy



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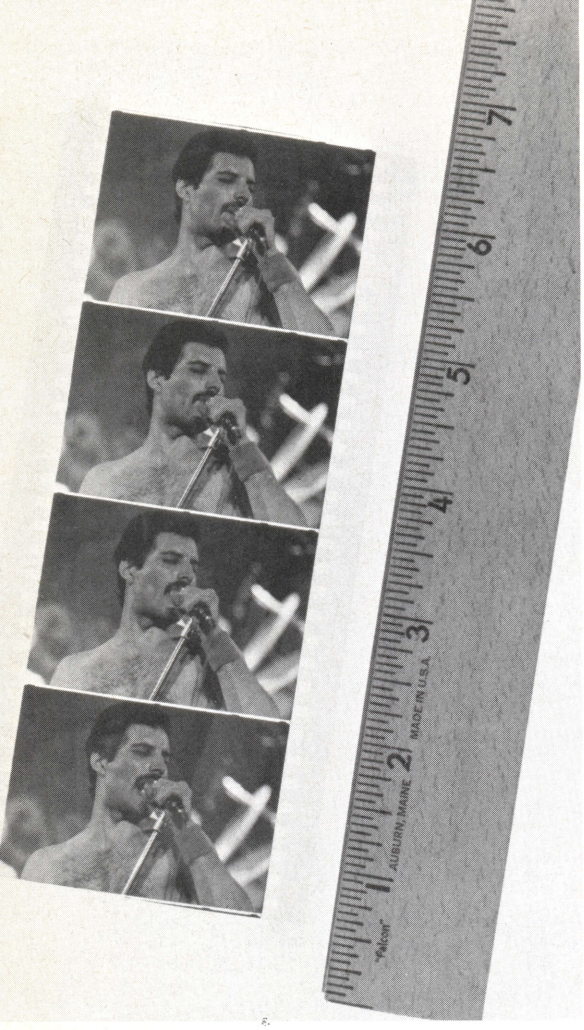

70mm, 8-sprocket-high frames from a* We Will Rock You *release print.

Mercury prances around a lot, so I was looking for optimum focus and maximum depth of field. I knew that any loss of sharpness would be magnified four times in the blowup."

Based on a talk with the concert lighting designer, Brooks decided to rate the film for an exposure index of 250, which is a one-stop "push" for Eastman color negative film 5247. This allowed the 10 film crews to work at T-stops of 5.6 and 6.3 for maximum sharpness and depth of field. "I gave them instructions to watch the light and adjust accordingly during filming if the intensity changed dramatically—especially on the low level side," he says.

Brooks asked the lighting designer to give him as much backlight as possible, to bring up the blue and green light effects to top level, and to try to keep any changes within the compression of the film. He wanted to use controlled light on the audience but had to make do with an occasional sweep of the spotlights operated by the concert lighting designer.

"There wasn't much else I could do," says Brooks. "The lighting designer is sitting with a computerized board, dancing with the lights, and I couldn't be sure he would follow any of my instructions.

"So, I told the 10 camera operators to shoot wide open when the lights went down and to close down to T-8 if they brought the illumination way up," he continues. "The latitude of the color negative really paid dividends. It is actually pretty difficult to overexpose 5247. The film has a tremendous ability to bite into shadows, and it holds a great range of detail between highlights and darker areas."

Brooks' apprehensions about shifts in lighting proved to be realistic—"They forgot to tell me about the smoke and rocket effects as well as random blackouts," he says—however, that wasn't nearly as unpredictable as the group's movements on stage.

"I could have used another T-stop," he says. "At T-5.6 with my camera position 20 feet from stage and at 120mm position, which was used quite frequently, I only had a depth of field range of about seven feet. That barely covered Mercury's frenetic stage movement. He would be standing in one place and suddenly run 30 feet to the other side of the stage. During the smoke effects which obscured vision, I just kept opening wider and hoped my assistant would find the focus marks. There wasn't much else I could do. I know that if we were doing this again, we would use the new high-speed 5294 emulsion. It just wasn't available in huge quantities at the time."

Although all operators were on headsets, the loud music rendered this communications tool ineffective, so they filmed what they saw from their fixed positions. The cameras began rolling at staggered intervals so they wouldn't all run out of film at the same time.

The multi-camera system required some innovation in sound synchronization technique. Two perfectly synchronized digital clocks were placed so that one was always visible to each crew. The crews used these clocks as their slates. Sound was recorded in 24-track format with two audiotape machines. To eliminate a break in the sound, the second machine began recording 30 minutes after the show started. Swimmer used a shaft encoder to record the times displayed on the digital clocks on the audiotape.

"We compressed the original 24-tracks to eight, and this was re-recorded on sprocketed 35mm full-coat film," he says.

Film from the 10 cameras was edited in sync to the full-coat.

"It was a very challenging editing job," says Swimmer, "because we had so much footage to choose from. However, that allowed us to show the Big Screen audience the Queen concert from a visual perspective that no live audience will ever see.

"During presentations, the sound recorded on the full-coat is fed through the sound system in the house to 50-plus speakers," he continues. "A sound mixer travels with our crew, and one of the things that he does is refine the audio for each arena."

"My personal talks with the cameramen paid off," notes Brooks. "They captured the visual excitement generated by Queen at the live concerts and translated it to the magic of film. If you have seen concerts where big screen projection television is used to help the audience see the performers, and think you know what I mean, forget it. This is a much truer, and warmer, as well as a bigger image. It has all of the ambience and emotion of a theatrical film, only more, and that in itself creates a totally new dimension. Wait until you see film images which are more than five stories high."

That's more than a personal opinion. *We Will Rock You* has already played in three test markets, including San Diego and Baltimore, and the revues have all been raves.

"I think the MobileVision print looks as good if not better than the original 35mm negative," says Swimmer. "You have to give Dick (Brooks) credit for that—the original negative is sharp and crisp, and despite the one stop push, there is absolutely no grain to be seen. His perception of correct exposure under the circumstances was incredible. His crew also recorded a lot of exciting imagery."

The clarity of the projected image is due in part to the special projection system which utilizes custom-made 7½-inch lenses hand-ground to 1/100,000 inch.

The 70mm print is projected at 48 frames per second, two times the

conventional rate. This doubles the number of images, and, therefore, the amount of visual information which each viewer perceives. Illumination comes from a super-bright 7500-watt bulb.

"Because of the fast frame rate and hot bulb, the projector has a unique water cooling system which keeps the equipment running cool," says Brooks.

The projector is positioned 200 feet from the screen, and it is raised about 28 feet. It has a built-in leveling unit that works out the keystoning. Swimmer and his presentation crew of six persons travel with two projectors—one as a backup—packed in special carrying cases for mobility.

The projection screen also had to be specially designed. If it were constructed of conventional projection material, the mass and weight would break the screen. The screen is made of a steel-reinforced, man-made fiber heat-welded so it appears seamless.

"It takes us about four hours to install the screen," says Swimmer. "We attach the screen to lighting trusses 10 feet in length, tied off every six inches. We use motors to raise the lighting trusses. The screen is so strong and rigid, we have used it in 25-mile-an-hour winds."

Initially, Swimmer and his presentation crew would complete the screen installation before the audience entered. Now, they wait until the audience is seated and take the screen up, beginning with a smaller image in the middle of the screen, which becomes MovileVision size in three steps.

"We learned during the pilot presentations that audiences aren't used to watching a film this size yet," says Swimmer. "We don't want them to be visually overwhelmed and not know where to look first. So, we take them by the hand for the first 20 minutes. It's a matter of perception. The words 'bigger than life' and 'louder than loud' don't mean much until you experience it."

Swimmer has plans for MobileVision which transcend concert films. He envisions films of all performing arts from ballet and opera to the Grand Ole Opry. "Wait until we spring MobileVision on the TV generation," he warns. ■

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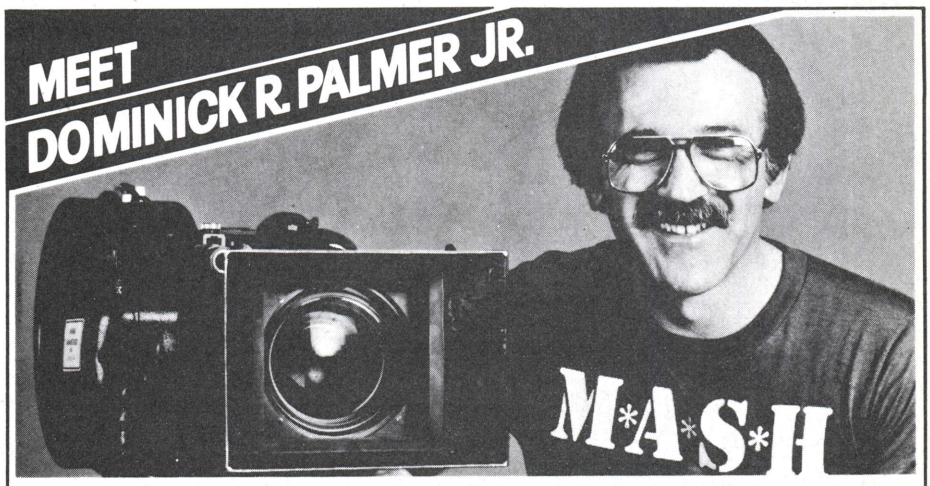

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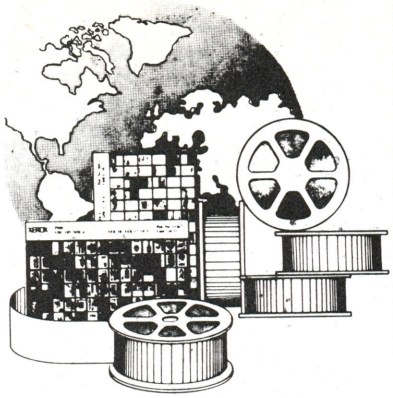

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Richard Stucker

Videotaping Live Theater

A major dilemma that has always plagued live theatrical stage performances is that once the curtain comes down, the production will never be seen again with that particular interpretation or staging or direction, except in the memory of the playgoer. Now imagine the best, the most representative, the most controversial, or simply the most incredible stage performances on Broadway, off-Broadway and in regional theaters across the country being recorded on film and video tape multi-camera style, thus capturing these treasures forever!

For the past six years I have been fortunate enough to be the video director during the taping of some priceless events. Most have been recorded at packed-house performances, usually under existing theatrical lighting, cut and mixed live without any post production, and – with few exceptions – all are broadcast quality. Yes, Virginia, live stage productions for television do exist, and they can be viewed – with limitations – at the New York Public Library's Billy Rose Theatre Collection at Lincoln Center.

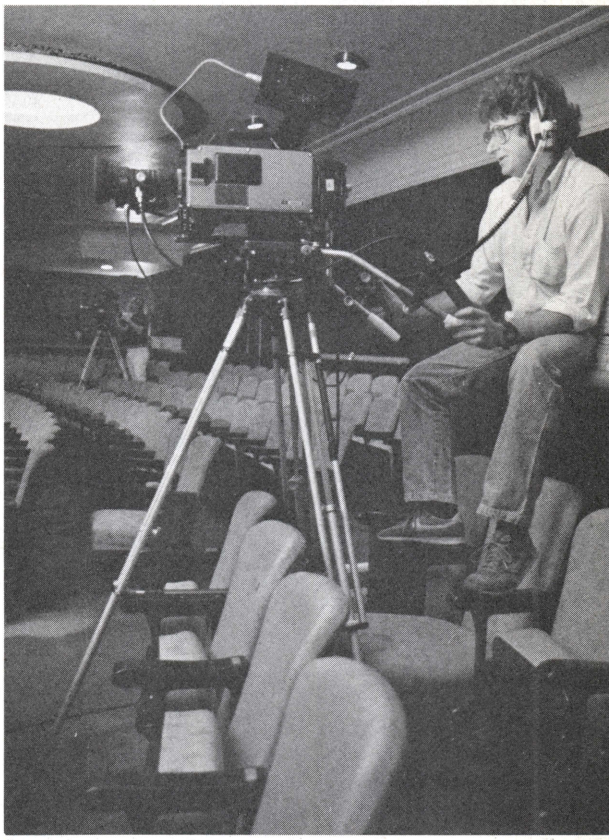
The more than 330 productions currently in the Theatre on Film and Tape Collection (TOFT) have been recorded for as little as $200 (the first production shot in black and white in 1970) to well into five figures for last year's recording of *A Chorus Line* the night it became the longest running Broadway musical. But more about that production later. It must be emphasized here that the vast majority of these recordings are paid for by a few grants, endowments and corporate donations and, occasionally, by the producers, writers, etc. of the productions. For instance, TOFT has just been given a sizeable grant from the Ford Foundation to record four regional theater productions a year for the next four years. But these contributions are very scarce and thus, video taping budgets are tight.

However, some of the world's best theatrical productions are being recorded. Once a selected production has closed, theatre professionals, students and researchers from around the world can, if qualified, come to Lincoln Center to see how that production was staged, directed, interpreted, etc., thanks to the efforts of TOFT's project director, Betty Corwin, and her small but dedicated staff. In addition, almost a dozen unions involved in commercial theater have sanctioned the Library as the only institution in the United States permitted to tape live performances without payment to those involved with a production.

Obviously, recording live theatrical performances under existing lighting conditions, with multiple cameras positioned in a very limited number of locations in the audience, with no rehearsals or camera blocking sessions, no rough audio mixes and usually no post production whatsoever could make some people feel that the challenges would be insurmountable at best. But somehow we manage to record the seemingly impossible. As an extreme example, one production was even shot with a night-scope camera – very interesting. Suffice it to say that it was pre-Ikegami 'D', 'E' and 'EC' technology.

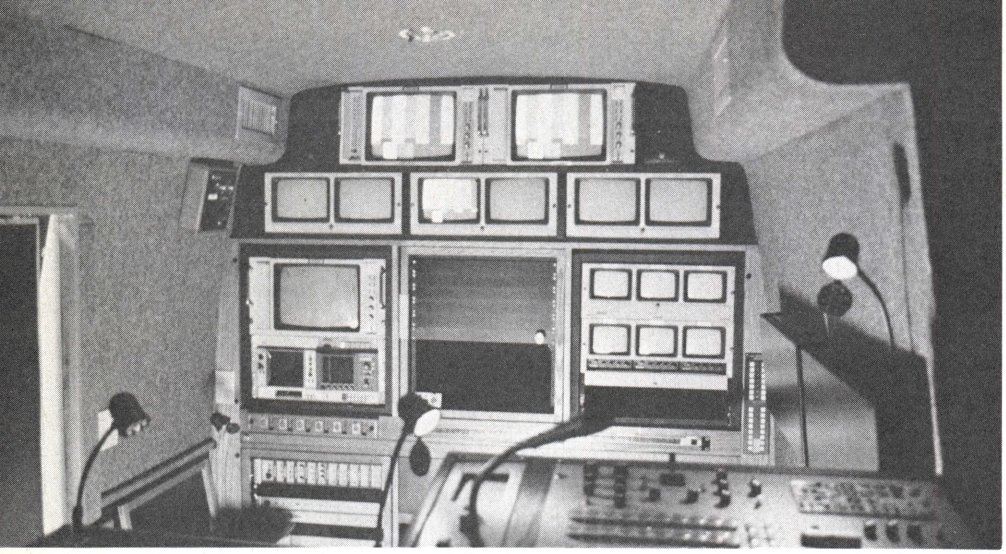
The first video recording that I directed for TOFT was *She Stoops to Conquer* at the Guthrie Theatre in Minneapolis back in 1978, and since that time I've directed the majority of the recordings for TOFT.

Once a play has been selected (by an impressive group of theater dignitaries, based on a list of criteria as long as my arm, which I won't expound upon here), I generally view the production at least three or four times. I'm usually fairly easy to spot in an audience – the bearded weirdo scratching and sketching furiously on his spiral note pad in the midst of the big-buck seats, usually to the annoyance of those theater veterans glaring at me on either side. The crews we use view the plays at least once to familiarize themselves with the characters, general blocking, musical and choreographed sequences.



***A typical two camera setup on the orchestra level when camera positions are limited as in this sold-out performance of* My One and Only.**

In general, our primary purpose is to document the production as performed, staged, directed, produced, designed, choreographed, etc., etc., as best we can, given our limitations. Ours is not to interpret but, if anything, to reinforce – wherever possible and as subtly as possible – that theater's presentation. Seldom do we use artsy-craftsy production devices or special effects unless they enhance the documentation.



Top: ***The interior of Rebo's custom video remote truck.*** **Below:** ***Unloading at the theater in preparation for the taping of*** **My One and Only.**

A specific example of utilizing some special effects, however, was in the recording of *Rumstick Road,* a wonderful avant-garde play. A large portion of that production was staged in two settings at opposite sides of the stage, separated by a vast expanse of nothing. And, to make matters worse, long periods of frantic action took place simultaneously in both settings. For television, a single wide shot of both settings would have had the same result as shooting two peas, one in each of two barrels, one going over the American side and the other over the Canadian side of Niagara Falls as shot from a camera positioned atop the CN Communications Tower in Toronto using a 10mm Switar lens! After much thought and lengthy discussion, I was convinced our only solution to this predicament was a split frame! And it worked.

We normally double-record each production on both 1" C-format and ¾" helical machines. Remember, since these are one-time-only situations and very tightly budgeted, you have to have backups to avoid re-shooting. The instances when we didn't have backups everywhere were usually the instances in which we were burned somewhere. The ¾" recordings serve not only as backups to the 1" masters, but are also used as the first set of viewing masters since the TOFT Collection is viewed on ¾" players. And one less dubbing-session fee means more money saved to apply to other recording sessions.

As another backup, I usually require that the sound be recorded utilizing two completely separate systems. We mike the productions directly and as thoroughly as possible with our own sound setup. We also take a feed from the house sound system, which usually includes an orchestra pickup, SFX playbacks and various wireless and 'remote' microphones. We then have a choice of recording in stereo with our mikes using the house feed split as reinforcement, or recording a straight two-channel setup whereby our mikes feed one channel and the house feeds the other channel.

Recently we've been shooting using a small but beautifully designed multi-camera/multi-format remote truck of Rebo Associates in New York. But in previous years, half the time we would work out of trucks and the rest of the time we would set up the control gear in a small room in the theater, depending upon the space and type of facility that was available.

Our final backup system is shooting matinee performances so that if anything goes wrong, we leave the gear in place and shoot that evening's performance, with a minimum of cost overrun. But even with all of these backups and our own technical proficiency, things can go wrong. And although we have whittled our list of facilities and free lancers down to a very professional and reliable group, as with any live-type recording there is always a certain amount of luck involved as well.

The recording of *La Cage Aux Folles* was supposed to be relatively simple – a big, beautiful musical with lavish sets, beautifully staged with stunning choreography and wonderfully memorable music. But somehow gremlins found their way into the recording session causing two major problems.

At the matinee performance we experienced incredible audio difficulties both with picking up those actors who were not wearing wireless mikes and with a very weak orchestra mix. As we continued to record, I concentrated on the video portion of the show knowing that we had the option of recording that evening's performance if necessary, and hopefully we could correct the audio problems between performances. At the conclusion of the matinee performance we hurriedly assembled meetings and quickly determined that recording that evening's show was feasible and indeed, our last chance. (The leads were going to change within a few days.) Additional mikes were brought in and alterations were made, and we prepared for the evening performance feeling that we were ready for anything.

At twenty minutes before showtime that evening gremlin #2 showed his ugly little face. We were taking severe video hits in both cams, and the wild thrash began! By the start of the overture one camera had been stabilized, and the shooting began of this incredibly beautiful production with only one camera, and that cameraman would be working most of the first act at the extreme telephoto end of his lens. Luckily the cameraman was Jeff Hodges – a veteran of TOFT productions and an excellent videographer. What made it even more ironic, however, was that he had broken his collarbone the day before and was in much pain. To make matters worse, he would have to go handheld – on his shoulder – at the end of the performance to shoot during the standing ovations . . .

Ouch! The good news was that the audio was beautiful.

As we began shooting this single-camera portion of the first act I tried not to duplicate the shots that I had recorded during the matinee so that, in effect, I had three cameras to choose from during the impending edit of the first act. And finally, at about 40 minutes into the show, stability and gen lock were achieved and there were two cameras to work with. By this time I had assured everyone that a marriage of the two recordings would be impossible in editing and that nothing would be lost. I more than once made that old pie-in-the-sky claim: "We'll save it in post!"

We did. Over several days at Rebo we screened and selected scenes and shots from the excellent video of the afternoon matinee and most of the evening show that could be synced with the excellent audio of the latter performance. Thank heavens the orchestra conductor, Don Pippin, had a sense of tempo like a computer, and the sequences – some of them very long – were amazingly simple to sync.

Incidentally, we dumped the 1" masters down to the new ½" Recam 'M' format video tape and re-inserted the new in-sync video into the 1" master of the evening performance. And I defy anyone to detect any difference in video quality. God save the techs!

When the musical *A Chorus Line* was about to become the longest running Broadway musical and an incredible gala event was being planned, Corwin received a call from Michael Bennett, the creator, choreographer and director, asking us to video tape the entire evening.

This was not to be a small task since the theater itself that night would be packed with an invitation-only audience, with a very limited number of camera positions available, with only a week of rehearsals (scattered all over Manhattan), with no chance of additional lighting support and with only one full dress rehearsal for the camera crew to view Bennett's special version prior to that evening's live show. It was to be the best of every "Chorus Line" company in the world assembled with, at one point, close to 300 on stage for the most unforgettable performance ever witnessed!

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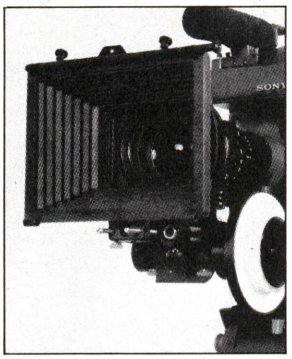

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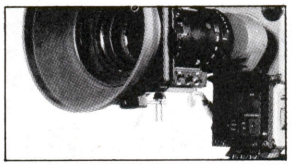

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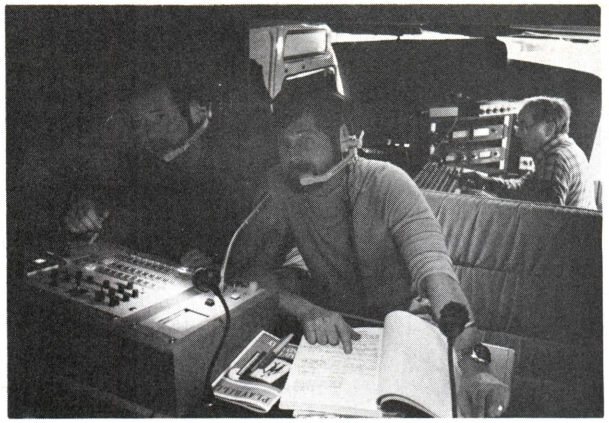

Stucker sets up opening shots from the truck with technical director Emmett Loughran as soundman Gino Lombardo pre-sets rough orchestra levels during the warm ups.

The technical challenges of a live, 2½-hour non-stop *Chorus Line* were intense. I decided that four small, light-sensitive cameras were all that we could squeeze into the theater that night – no room for full studio-camera rigs here – and that each camera would be isolated to its own 1″ video recorder. I toyed with the idea of using each of the two audio tracks on the five 1″ video tape machines to record a separate mike or line feed, thus having a 10-channel multitrack audio recording. But because of the mammoth logistical requirements, the usual broad variation of audio recording response characteristics of most video recorders (even with the same model and manufacturer) and the extensive audio post production requirements that would result, I elected to stay with our tried-and-proven two-system technique. At the last minute it was decided that a camera would also be utilized to shoot outside, Recam film-style, the growing number of celebrities arriving before the performance as well as the big bash in Shubert Alley before and after the show.

The recording seemed to go smoothly and the reports from the Booth Theatre next door – where we had set up a large video screen for the performers to watch our live switched feed of the evening's performance – were very encouraging.

The video editing and audio sweetening process took about 10 days total and it was only during this stage that we realized the few technical problems that had occurred. At one time during a reel change of one of the iso'd cameras, *two* recorders were stopped inadvertently so that two of the cameras were only being recorded on the rough-cut master reel that I was cutting live. At another time we apparently lost a detail board in one of the cameras which made focusing extremely critical for a while. And at one point both sound systems lost pickup of a 35-second chunk of a solo which was being overpowered by applause, (a frequent problem that night).

The video editing required reworking a suite at MTI in New York to facilitate viewing the CMX master/slaving of the four ″ iso machines to the rough-cut 1″ master and, needless to say, the folk at MTI bent over backwards to make the edit both efficient and painless.

The audio sweetening process at Regent Sound in New York was equally challenging, particularly with the missing 35-second chunk of audio. Luckily, TOFT's Richard Ryan, technical production supervisor, knew of a black & white tape copy in the archives of *A Chorus Line,* with the same performer singing this short solo. Using this copy, a Lexicon and a Harmonizer, Bob Liftin – an old pro – was able to lift this audio, sync it, match the pitch and tempo and, with several edits, insert it into our master audio. And if I hadn't spilled the beans I don't think anyone would have known.

From my point of view as director, the most frequent decision that is also the most frustrating and difficult to make in these tapings is when, or if, I should be in on a single close-up if there is action blocked elsewhere on stage that needs to be documented. Obviously, the criteria an experienced director uses to make this judgment could fill pages. For instance, has this action been established previously on a

wider shot and, therefore, can I assume it's recurring and stay with a close-up? Or are there entrances or light cues happening as well that need to be established in a wider shot? Does the actor's expression read sufficiently in a looser shot or is it so subtle that only the first two rows will see it, let alone any video viewers? (As an aside, often a performer will consistently project his speech, gestures and expressions to the back of the house and I'll consistently shoot to avoid exaggerating the emotions they are trying to portray. For this and other reasons, before the curtain goes up on each play I shoot establishing wide shots of the theater interior and audience to give the viewers an idea of how far the actors will need to project.)

Two plays in which the shot-selection dilemma occurs most often were *Cats* and *On Your Toes.* Both required three cameras – *Cats* because of the incredible set that occupied the entire theatre with the cat-actors scattered all over the orchestra level, out on the railing and into the mezzanine audience, and *On Your Toes* because of the constant mesh of dance and dialogue.

In shooting choreography I've found that a higher angle center camera position – for instance, the center front edge of the mezzanine – best reveals the blocking of the dance sequences. And yet, this angle is distracting to use during the heavy dramatic dialogue scenes. So with major dance productions, a third camera is almost mandatory with the other two cameras closer to eye level. Another ideal camera position is often dead-center/orchestra level. This usually requires shooting with the camera mounted on baby legs at eye level in the audience, with the viewfinder lashed to the side of the camera to minimize obstruction to the people behind the camera. Even so, this camera position requires anywhere from 8 to 12 of the prime, big-ticket seats be left vacant. Many of these seats have already been sold and most general managers aren't willing to shuffle their regulars about, let alone leave seats unsold.

Another recurring problem in recording theatrical productions are slide and film projections. No one has come up with a really brilliant, powerful

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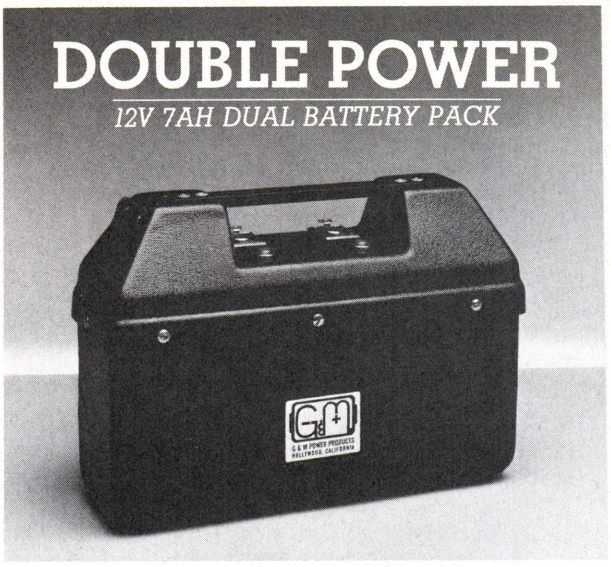

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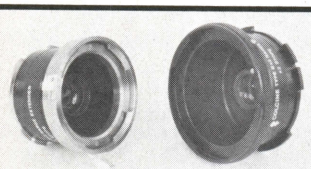

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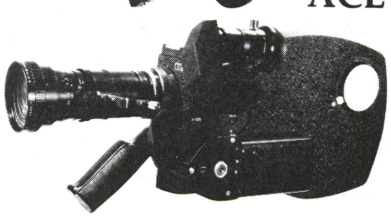

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projector and screen material combination that is practical for most stage productions. *Baby* was a particular challenge in this regard since the screens were not even screens but sheer curtains on complex motorized tracks – effective, but difficult for video.

Regarding screens, to digress just a moment, it's interesting how many time-proven stage techniques have been translated into present day television production. For example, the use of foreground or background screens in stage productions has always been very effective, where suddenly a wall disappears with a simple light cue to reveal often a totally different setting. With television it's even more simple by just slightly moving or splitting a fader on a switcher. And yet, it's often not nearly as effective. Lighting techniques in theater have become highly developed, such as those skills exhibited by Tharon Musser in lighting the incredible multilevel set piece for Neil Simon's *Brighton Beach Memoirs*. The lighting is so beautifully controlled that you seem to be gently placed into each room without even a hint of a light cue. The usual lighting style of a typical TV sit-com would render that set totally flat and lifeless. Another example, the use of forced perspective, such as in the staging of *Evita* and *Nine,* could be seen in theatrical set design long before film and television camera lens selections were dreamed of.

Theaters in the round and thrust stages are also challenging to shoot with a limited number of cameras. Just when you think you've captured a decent ¾-side close-up of an actor, he flips around to face the other side of the theater leaving you with a great shot of his bald spot. The production of the Marx Brothers' classic *Animal Crackers* at the Arena Stage in Washington, D.C., was an excellent example. But once I picked up the ryhthm of the dialogue exchanges, shooting this theater-in-the-round production proved to be quite effective using only two cameras – much less confusing.

Even with all of these challenges, there are very few times when I come away feeling that I'd like to shoot

that one again. *On Your Toes* was one of those times. The closing scene, in particular the *Slaughter on Tenth Avenue* ballet, was completely black on black with lots of mirrors and practicals. To have had the videoman play with the gamma and black stretch controls on the cameras would have maximized the detail in the blacks and given it all a slightly smoky look, which would have been great considering the setting. But other than that I was very pleased.

A final and major problem we often face in shooting theatrical performances is when all of us – director and crew – start to lose it during a hilarious or touching scene. More than once I have found myself totally choked up and inaudible. One scene comes immediately to mind in *The Human Comedy* – a nonstop series of moving musical sketches.

For this production we had set up our control room/switching gear in a small center-mezzanine-lobby area inside at the rear of the theater, and I can recall being intensely involved in cutting the show. At one point the entire chorus had slipped into the back of the theater at both levels without our being aware of it, even though I had made a note of this during earlier viewings when I was seated in the audience. Suddenly, the music exploded into an incredible, a cappella chorus totally surrounding us – coming up the stairs, over our heads and through the walls!! . . .. We were momentarily spellbound by this breathtaking music all around us . . . This could only be Heaven!! . . . I still don't know how long I was out of it, but I do remember one of the cameramen finally breaking in on the headsets saying: "Hello? . . . Anybody home??"

One of our most recent tapings was *Balm in Gilead* – a revival of Lanford Wilson's first play, as performed remarkably by the Steppenwolfe Theatre Company in Chicago. This was a little off-Broadway play that presented us with innocent challenges like complete black limbo sequences in which the action was being illuminated and directed by an actor's single glowing

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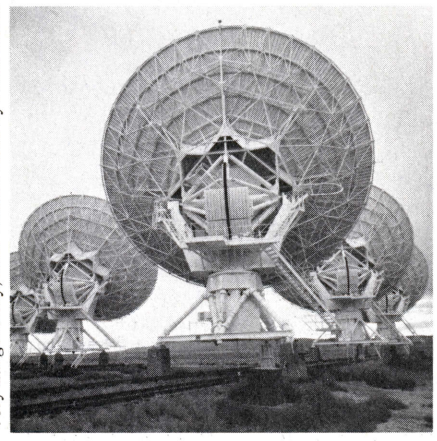

Very Large Array, near Datil. Photo by Mark Nohl.

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cigarette, extreme mass action and multiple-dialogue-overlay sequences where the principal dialogue could only be distinguished by what could be heard shouted over the din of the subordinate dialogue, a nude bedroom scene so dark that even your eye couldn't register an image unless you viewed it out of the corner of your eye, and a closing instrumental crescendo of approximately 110 to 120 decibels that would have set up microphonics in an instamatic!!

Oh well. What's production without its little challenges?

For more information regarding the TOFT Collection, please contact: Betty L. Corwin, project director, Theatre on Film and Tape, New York Library of Performing Arts at Lincoln Center, 111 Amsterdam Avenue, New York, NY 10023. ■

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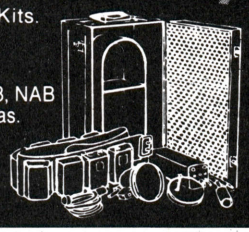

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John Mabey

Video Disc Basics

Last year the end came inauspiciously for a project that began with a bang. RCA president, Thorton Bradshaw, announced the demise of the Selectivision Video Disc System. It is likely to be remembered as the biggest faux-pas in the history of consumer electronics: RCA could lose $600 million.

Bradshaw cited "the enormous growth in VCR's. and the rapid development of a rental market for tapes" as the primary factors in the project's failure, and then lamented, "Selectivision was a technological success but a commercial failure." The statement serves to obscure the issues behind RCA's marketing of the product and fosters the unfortunate perception of the video disc as a throwaway technology. RCA, like its competitors, has pitched the hardware as a (cost competitive) alternative to tape. One with exactly the same software: Hollywood movies. However, the video disc isn't just a better mouse trap; it's a new medium being sold as an old one.

The disc formats associated with broadcast television are recordable and use magnetic tape or hard disc for storage. Typically, these systems are used for slow motion and still frame storage. Video information is stored either in analogue form or as serially encoded data. The digital systems are more expensive. A fully expanded Ampex ESS 2 system boasting an on-line capacity of about 8000 frames costs upwards of $250,000. The Ampex ESS can be referred to as an Erasable Direct Read After Write or EDRAW System. The duplication of this type of video disc is a real time process, requiring a dedicated recorder that makes copies one at a time.

The video discs familiar to consumer electronics are replicate discs. Unlike recordable discs, replicate discs are stamped from a master like phonograph records making the costs of large-scale duplication more attractive than tape.

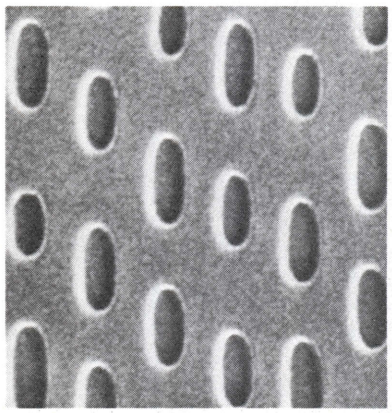
Laserdisc players like this Pioneer LD V1000 can usually access any frame in less than three seconds.

Four incompatible, replicate disc formats have been introduced since 1978: RCA's CED system; VHD developed by JVC, Transmissive-Optical developed by Thompson CSF; and Reflective-Optical, (R-type) jointly developed by N. V. Phillips and MCA. The digital audio disc (DAD) could be considered a fifth format even though it is an R-Type optical system. The DAD employs a five inch disc and adheres to PCM (Pulse Code Modulation) recording standards.

To date only the R-Type optical disc has survived the ravages of the marketplace and that is due to its popularity as an interactive medium.

R-Type discs come in two varieties: Constant angular velocity (CAV) and Constant linear velocity (CLV). The CLV disc offers one hour of continuous play per side, and has none of the features that make interactive discs interesting. So henceforth, we will be concerned with the replicate, R-type optical, CAV disc.

CAV discs have a storage capacity of up to 30 minutes – or 54,000 frames per side. They are capable of real time playback, variable speed playback in either forward or reverse, chapterization of the video program, automatic stops on a specific frame, and direct random frame access.



Billions of microscopic pits in the surface of the disc modulate the laser beam in playback.

On CAV discs, one video frame is equal to one 360 degree segment of the disc track, and every track is numbered. These numbers begin with one and increase sequentially for the duration of

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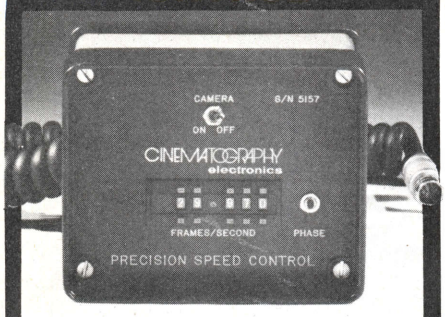

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the video program. Any track is accessible via these numbers. The 1800 RPM rotation speed and track symmetry combine to make the disc remarkably well-suited for still frame display. It is the combination of storage density, random access, indefinite still frame reproduction, and cost that make the optical disc a breakthrough.

Conventional film/tape programs are designed with a beginning, middle, and end; and are intended to be viewed exclusively in that order. This is not just a function of narrative conventions, it is an artifact of the linear nature of motion picture storage and delivery media. The optical disc removes this intrinsic condition from the retrieval and display of information because the viewer can alter both the running time, and the order of a program, according to his or her personal interests. In this regard, the patterns of viewer interaction take on a quality that more resembles the way we "use" books than the way we "view" movies. Consider, for instance, how differently two stamp collectors might use the same catalogue.

The order in which the pages are read, and the time spent on each page, is specified by the reader. Optical discs can be used like books, like movies, or as a mixture of both.

Thus far we have discussed the disc with little reference to its partner: the player. Optical disc players are the first product in the history of consumer electronics to employ a laser. The laser is used as a read-head that transduces the information stored as micro-pits on the reflective surface of the disc into NTSC video and sound.

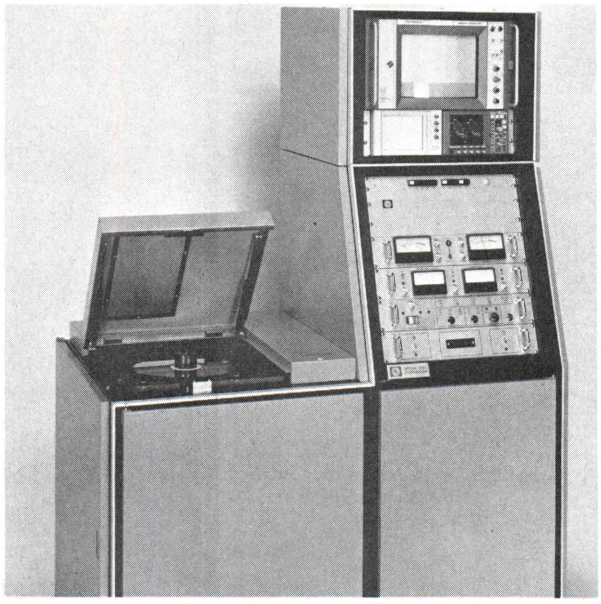
The Nebraska Video/Production Group has broken the universe of disc hardware into three levels:

Level I – Includes any of the consumer optical disc players. Currently manufactured by Pioneer, Magnavox, and Sylvania.

Level II – Has all the capabilities of Level I players plus an on-board programmable memory. A partial list of programmable functions include: program looping and branching; scorekeeping of user responses; sequentially definable playback rates; audio channel toggle. Programs for the Level II player can be written and entered manually via the player keypad or they can be stored on the disc's second channel of audio and loaded automatically. Level II players are equipped with an RS232C interface and are frequently referred to as Industrial/Educational players. Sony, Pioneer, Phillips and Hitachi currently manufacture them.

Level III – Consists either of a Level I or a Level II player interfaced to an external computer. The power of a Level III system is a function of the size of the computer's memory, the complexity of the applications software, and the type and number of display devices and user interfaces.

As the disc becomes more ubiquitious the above distinctions will be-



The ODC 610 videodisc recording system from the Optical Disc Corporation can record NTSC video with dual channel sound in real time on LaserVision compatible discs which can be played back immediately without further processing.

come less useful. Disc storage that combines NTSC and PCM video holds forth a new generation of hybrid (analogue/digital) systems.

The mastering process for a laser disc requires that the master disc be developed before it can be played back or used to stamp replicate discs. The program material is delivered to the plant on 1″ videotape which must conform to a set of technical specifications designed to insure that what is recorded on the disc will enable it to play back properly. The tape is played back at normal speed and the signal is fed to the master recorder where it causes a laser beam to be pulse-modulated. The master disc is recorded non-stop in real time, one side at a time.

The turntable in the master recorder is loaded with a precision ground glass plate precisely coated with a photoresist chemical. The mastering process requires that the environment for the laser be cleaner than that of most surgical operating rooms. The modulated laser beam causes a chemical reaction in the coating on the glass plate. The development process results in the creation of billions of microscopic pits in the coating. This coating is then metallized in a vacuum chamber and the disc can be played back. If it is approved, a negative stamper is made which is used to stamp replicate plastic discs. The plastic is coated with a film of reflective aluminum and the two sides of the disc are laminated together.

The complexity of the mastering process for video discs has been the main obstacle to their application to video editing systems. In the last year or so 3M has introduced a more economical mastering process with a rapid enough turnaround time to make it feasible to use video disc dailies in certain types of production.

Another form of laser video disc recording has also been developed by the Optical Disc Corporation which does not require that the disc be developed. The laser creates the microscopic pits in a special recordable disc which can then be played back on any laser disc player immediately. Spectra Image of Burbank has one of these recorders and is offering a transfer service for $300 a disc. The disc is not a master from which a stamp can be made. It is comparable to a replicate disc. Spectra Image has also

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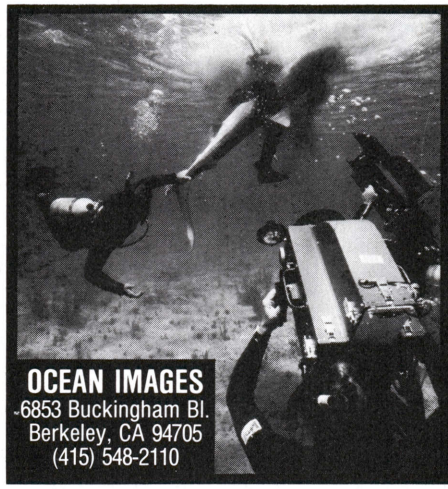

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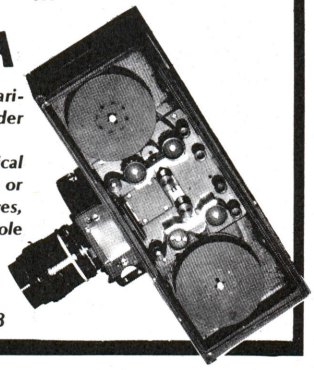

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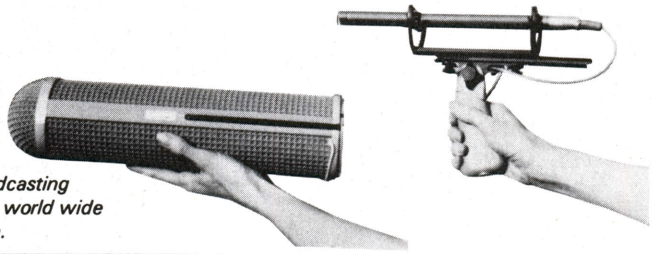

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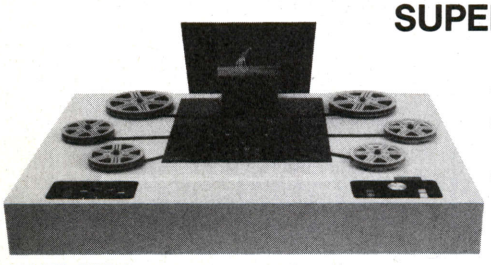

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developed a two headed playback machine to be used in editing material transferred to a disc. The second head speeds up the random access capability of a laser disc by enabling one head to search while the other is playing back.

Panasonic has also introduced a direct read after write (DRAW) optical disc recorder which is capable of real time recording of up to 13.3 minutes of video on an 8″ spiral disc along with 2 channels of audio. The disc, which spins at 1800 rpm, is capable of recording 24,000 frames of NTSC composite video with a 45 dB signal-to-noise ratio and 300 TV lines of horizontal resolution. The same unit can be used for playback or a less expensive playback-only unit can be used to play back the disc immediately after it is recorded and the access time to any frame on the disc is about half a second. A variety of playback modes such as still frame, slow motion or high speed can be selected via remote control, and the unit is designed for interfacing with computers via a standard RS232C serial port.

In the instructional media field the interactive disc is rapidly becoming the preferred medium for education and training. And discs are finding applications in electronic games, point-of-purchase displays, and information archiving and cataloguing.

In addition, optical discs are becoming increasingly used and thought of – as a storage peripheral to a computer.

Some of the most provacative applications have been developed by MIT's Architecture Machine Group. Perhaps the greatest lore attached to any single undertaking is The Aspen Project. Seated before a touch-sensitive monitor, the user gets a real-time drive through the City of Aspen by pressing symbols on the screen. Aspen is a "movie map", an "exhaustively filmed space" in which high tech starts to feel like ESP.

Yet even the fate of the R-Type disc in the consumer market is questionable so long as it is marketed as a "play-through" medium. The backlash of this strategy misaligns perceptions in the minds of potential users and discourages the use of those applications for which the technology is uniquely suited. It is precisely how the distinctive features of the video disc are exploited that will determine the breadth and depth of its future. ■

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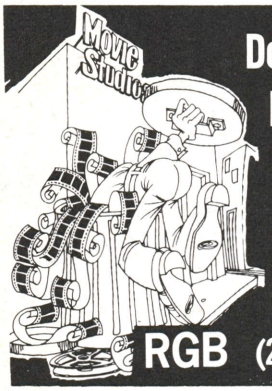

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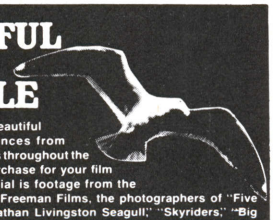

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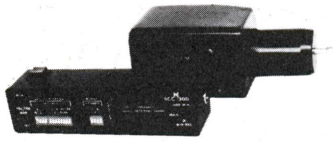

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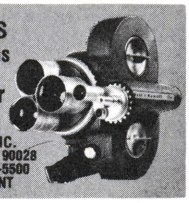

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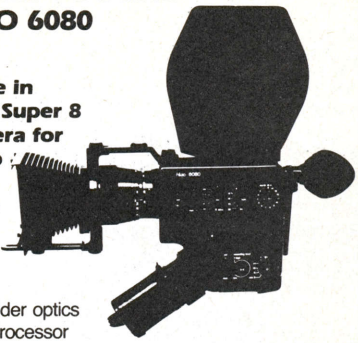

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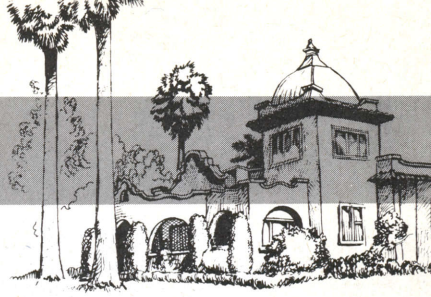

American Society of Cinematographers

The American Society of Cinematographers is not a labor union or a guild, but is an educational, cultural and professional organization. Membership is by invitation to those who are actively engaged as Directors of Photography and have demonstrated outstanding ability. Not all cinematographers can place the initials ASC *after their names.* ASC *membership has become one of the highest honors that can be bestowed upon a professional cinematographer, a mark of prestige and distinction.*

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Members of the A.S.C. and their guests enjoyed dinner, dancing and entertainment at the annual "gala affair" on January 12 at the Bel-Air Country Club.

During the evening, the roll of Oscar and Emmy nominees was called, and special certificates of achievement were presented. Entertainment for the evening included songs from the 40s by Patti Andrews (of the famous Andrews Sisters) accompanied by her husband, Wally Weschler at the piano. Manny Harmon and his orchestra also played for dancing.

Special tribute was paid to the widows of four great cinematographers—Mrs. John Seitz, Mrs. Winton Hoch, Mrs. Arthur Miller, and Mrs. Leon Shamroy.

Newly elected president of the A.S.C., Stanley Cortez, chaired the event and acknowledged the outgoing president, William A. Fraker.

Other officers elected for 1985 include Leonard South, 1st vice president; Harry Wolf, 2nd vice president; Ted Voigtlander, 3rd vice president; Joseph Westheimer, treasurer; Alfred Keller, secretary and Henry Freulich, sergeant-at-arms.

Members of the new board of directors in addition to the officers, are: L.B. Abbott, Joseph Biroc, Linwood Dunn, Daniel Fapp, George Folsey, William A. Fraker, Milton Krasner, Philip Lathrop, Gene Polito and Lester Shorr. Alternates are Howard Anderson, Jr., Charles Wheeler, Vilmos Zsigmond and John Alonzo.

Recently chosen for active membership in the Society is David Stewart, director of photography, special effects. Stewart's feature film career began in 1976 when he started with UFO photography for *Close Encounters of the Third Kind.* Prior to that he had begun in the business as an assistant cameraman at Dickson-Vasu Camera Service, operating an Oxberry camera stand for the completion of animated films, commercials and titles.

Patti Andrews

Stanley Cortez, ASC

Stewart became a director of photography during the filming of *Star Trek, the Motion Picture* and was nominated by the Academy of Motion Picture Arts and Sciences for an Oscar for his visual effects work on that film. He has since been special effects DP on *Blade Runner* (1981), *The Outsiders* (1982), *Brainstorm* (1983), and *2010,* (1984).

David Stewart, ASC

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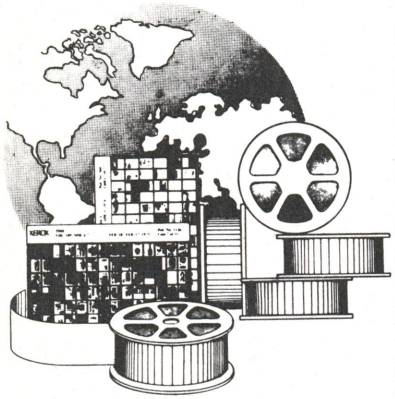

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In Memoriam

Sidney P. Solow, an honorary member of the ASC, died of a heart attack January 2 at the age of 74. The former president of Consolidated Film Industries and vice-president of Republic Pictures made many contributions to motion picture technology over a period of more than 50 years. Since his retirement from CFI in January, 1982, he was technical representative for Fuji Photo Film.

Born in Jersey City on September 15, 1910, Solow majored in chemistry and physics at NYU, graduating in 1930. In 1932 he started as a chemist at CFI's labs at Fort Lee, N.J. – at $15 a week. Within a year he became chief chemist and in 1936 he was transferred to CFI's Hollywood facility. He soon became plant superintendent and in 1942 he was made general manager. CFI was expanding rapidly, providing processing and release prints, optical effects, titles and other services to the industry and handling a heavy load of wartime government contracts.

In 1939, anticipating the television era, Solow installed 16mm equipment at CFI. World War II halted the growth of TV for several years, but in 1947 CFI processed the first television film for a Hollywood-made series and by 1948 was producing the first Kinescopes on the West Coast. Solow recommended construction of a $1 million building solely for the processing of TV film. The new facility was deluged with work.

Solow became vice-president of Republic Pictures, CFI's parent company, while continuing as general manager of CFI. He was elected to the board of directors in 1960 and became president of the CFI Division in 1964. During his term the company acquired Acme Video and Glen Glenn Sound Co.

He was honored often by the industry. The Society of Motion Picture and Television Engineers in 1974 presented him their highest award, the Progressive Gold Medal Award for "contributions to motion picture laboratory technology including the applications of mechanical, chemical and optical innovations for the improvement of film processing," and later elected him an honorary member. He received two awards from the Academy of Motion Picture Arts and Sciences for his achievements. He was elected an honorary member of the American Cinema Editors, was decorated by the Mexican government (Silver Medal), was Honor Awardee of the Honorary Cinema Society at USC, and held a fellowship in the British Kinematographic, Sound and Television Society. He received Resolutions of Appreciation from the State of California and the City and County of Los Angeles.

He was also noted as an educator, having given extended lecture series and seminars for the American Film Institute, the People's Republic of China Bureau of Cinematography, the Australian SMPTE, Film Institute of Soviet Russia and others.

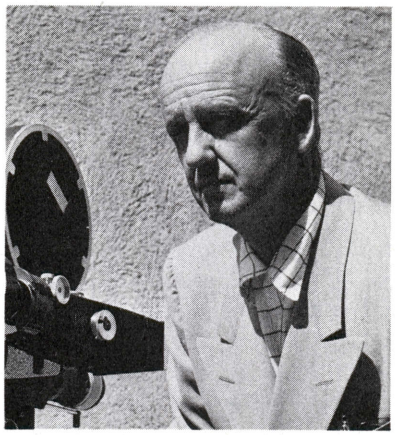
Sid Solow is survived by his wife, Davida, two sons, Gregory and Jeffry, a daughter, Mrs. Ron (Benida) Grant, and a granddaughter, Lea Grant.

Robert L. Surtees, ASC, who photographed many of America's most famous productions during a career which spanned nearly 60 years, died January 5 following a long illness. He is survived by his wife, Maydell, daughters Linda Lowers and Nancy Corby, and sons Thomas and Bruce. Bruce Surtees also is a director of photography.

Born in Covington, Kentucky, on September 8, 1906, he became an amateur photographer while in high school. He later secured work as a photographer and retoucher at a portrait studio in Cincinnati. After moving to California in the early 1920s, he photographed a number of scenic pictures which were published in "Towing Topics," the magazine of the Southern California AAA. C. Roy Hunter, head of the camera department at Universal City, was so impressed with the photos that he offered Surtees a job. Before reaching his 20th birthday, Surtees had assisted Harry Neumann, ASC, on a Hoot Gibson Western and worked with Jerry Ash, ASC, on the Andy Gump comedies and with Jackson Rose, ASC, on the Reginald Denny *Leather Pushers* series. His first high budget picture as an assistant was *The Man Who Laughs* (1927), photographed by Gil Warrenton, ASC.

As assistant to Charles Stumar, ASC, Surtees spent 1928–29 in France, Germany, Switzerland and Italy for Universal and UFA. Returning in 1930, he assisted Hal Mohr, ASC, on 36 pictures at various studios. He also seconded Stanley Cortez, ASC, Joseph Valentine, ASC, and George Robinson, ASC, at Universal.

His first assignment as director of photography was an independent production, *This Precious Freedom* (1942). Then he shot Frank Buck's South American expedition picture *Jacare*. He soon began a long tenure at MGM, followed by many more years as a top free-lance.



Surtees won many awards, including three Academy "Oscars"—for *King Solomon's Mines* (1950), filmed largely in Africa, *Ben Hur* (1959), and *The Turning Point* (1977). He received Academy nominations for *Thirty Seconds Over Tokyo* (with Hal Rosson, 1944), *Quo Vadis* (1951), *Oklahoma* (1955), *Mutiny on the Bounty* (1962), *The Graduate* (1967), *Dr. Dolittle* (1967), *Summer of '42* (1971), *The Last Picture Show* (1971), *The Sting* (1973), *The Hindenburg* (1975), *A Star is Born* (1976), and *Same Time Next Year* (1978).

In reviewing *The Law and Jake Wade* in 1958, Hearst columnist Harrison Carroll wrote that Surtees provided "some of the most spectacular color photography ever seen on the screen . . . overwhelmingly beautiful . . . each frame of celluloid was like a painting." Similarly high praise was given to *The Unfinished Dance* (1947), *Act of Violence* (1948), *Escape from Fort Bravo* (1953), *Raintree County* (1957), *Sweet Charity* (1968), *The Cowboys* (1971) and many others.

Early in his career Surtees said, "I have no other avocation except photography, even outside the studios." Later, however, he became an avid "ham" radio operator. ■

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Thomas E. Tutwiler, ASC, who died last December 24, earned distinction first as a special effects cameraman and later as an aerial cinematographer. Tutwiler said recently that he "always made pictures the hard way, under difficult and dangerous conditions."

He was born December 14, 1905, in Leakey, Texas, a town named for his maternal grandfather, a famous Indian fighter. After attending Texas A & M for two years, he drifted to California and did extra work at MGM, making his debut as a beer-drinking student in Ernst Lubitsch's *The Student Prince* in 1926. Seven months later he got a job in the film loading department. He soon became an assistant cameraman to Merritt Gerstad, ASC, John Seitz, ASC, and others of the MGM staff.

In 1929 he was assigned to the matte and process department, assisting special effects director Warren Newcombe and Paul Eagler, ASC. He became a director of photography and an ASC member in 1933. His photographic effects appeared in MGM's *Tarzan* series, *The Devil Doll* (1935), *Mutiny on the Bounty* (1935), *The Good Earth* (1937) and many others. In 1942 he left to join the photographic effects department at Warner Bros., and in February 1943 he entered the Army Air Force with the rank of Captain. For three years he photographed army action, mostly in the air. He shot aerial scenes of the first two atomic bomb tests in the Pacific in 1946.

Returning to civilian life, Tutwiler filmed the aerial sequences of Paramount's *Blaze of Noon.* He spent 1948 and 1949 in Alaska, the Aleutian Islands and Greenland making survival films for the Air Force, both on the ground and in the air, using the new Technicolor monopack film. For Howard Hughes he shot the air sequences of *Jet Pilot* (1950), and in 1951 he had a

long stint filming police action in Thailand. For Paramount he shot the Far East sequences of *The Bridges at Toko-Ri* (1953) and did what he considered his best aerial work for *Strategic Air Command* (1954). James Stewart, star of the latter and himself an Air Force pilot, was so impressed with the aerials that he insisted upon Warner Bros. obtaining Tutwiler for the flying scenes of *The Spirit of St. Louis* (1955). He also photographed the shark and marlin sequences of *The Old Man and the Sea* (1956).

In reviewing Twentieth Century-Fox's *The Hunters* (1958) in the Los Angeles Herald-Express, David Bongard stated that "The real star of *The Hunters*, an Air Force saga of the jet age . . . is the photographer who took the aerial shots—Thomas Tutwiler." A short time later Tutwiler was shooting from Paul Mantz's Lockheed camera plane when it collided with a DC-3 near Palmdale. Both crews survived. He later shot many TV shows.

Tutwiler retired in 1975. He is survived by his wife, Miriam, a daughter and a son.

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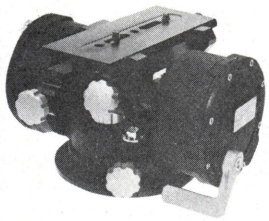

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Personal Favorite

High among my favorites is *Rear Window,* a Technicolor picture directed by Alfred Hitchcock with Robert J. Burks, ASC as director of photography. The entire picture was photographed in 1954 on Stage 18 at Paramount. A gigantic set was built depicting the facing backs of a number of apartment buildings including 31 apartment units, fire escapes, roof gardens, an alley, a street and the skyline. Except for the opening scene, in which the camera (on a crane) moves into the courtyard to eventually settle into James Stewart's apartment, the picture is filmed from Stewart's viewpoint. Houseridden because of a broken leg, Stewart breaks the monotony by spying on his neighbors, eventually becoming involved in a murder. Burks overcame the many photographic problems admirably, and did full justice to a cast that included Grace Kelly, Raymond Burr, Wendell Corey and Thelma Ritter.

***Daniel L. Fapp, ASC,** entered the motion picture field as a lab technician at Paramount in 1924 and soon became an assistant cameraman. His first picture as a director of photography was Paramount's* **World Premiere.** *He was employed steadily at Paramount until 1959, when he became a free-lance. Fapp was awarded an Academy Oscar for* **West Side Story** *(1961), and received a half-dozen other nominations. Some of his most memorable were* **Desire Under the Elms, The Five Pennies; One, Two, Three; The Unsinkable Molly Brown, Ice Station Zebra,** *and* **Marooned.**

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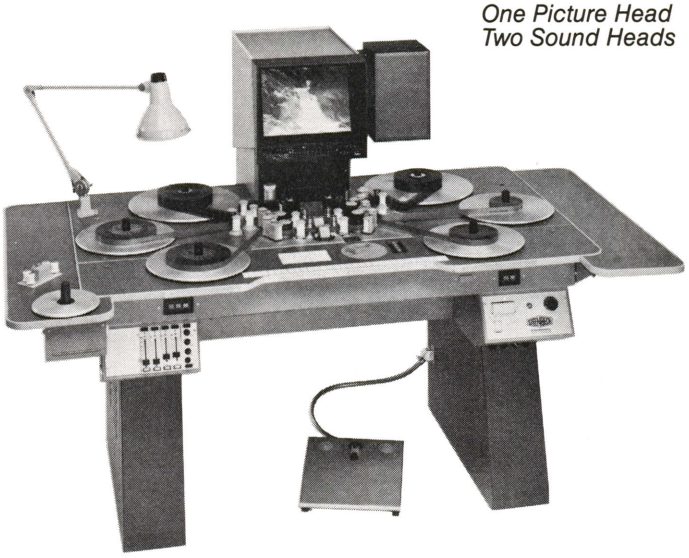

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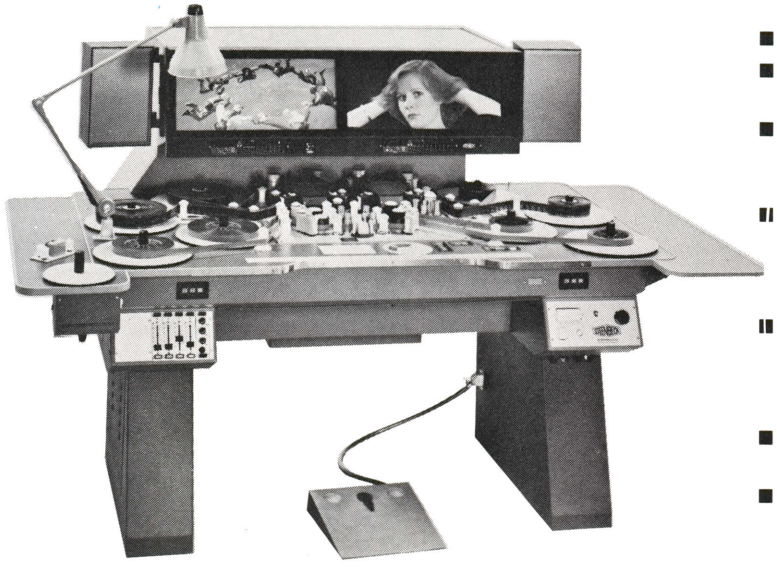

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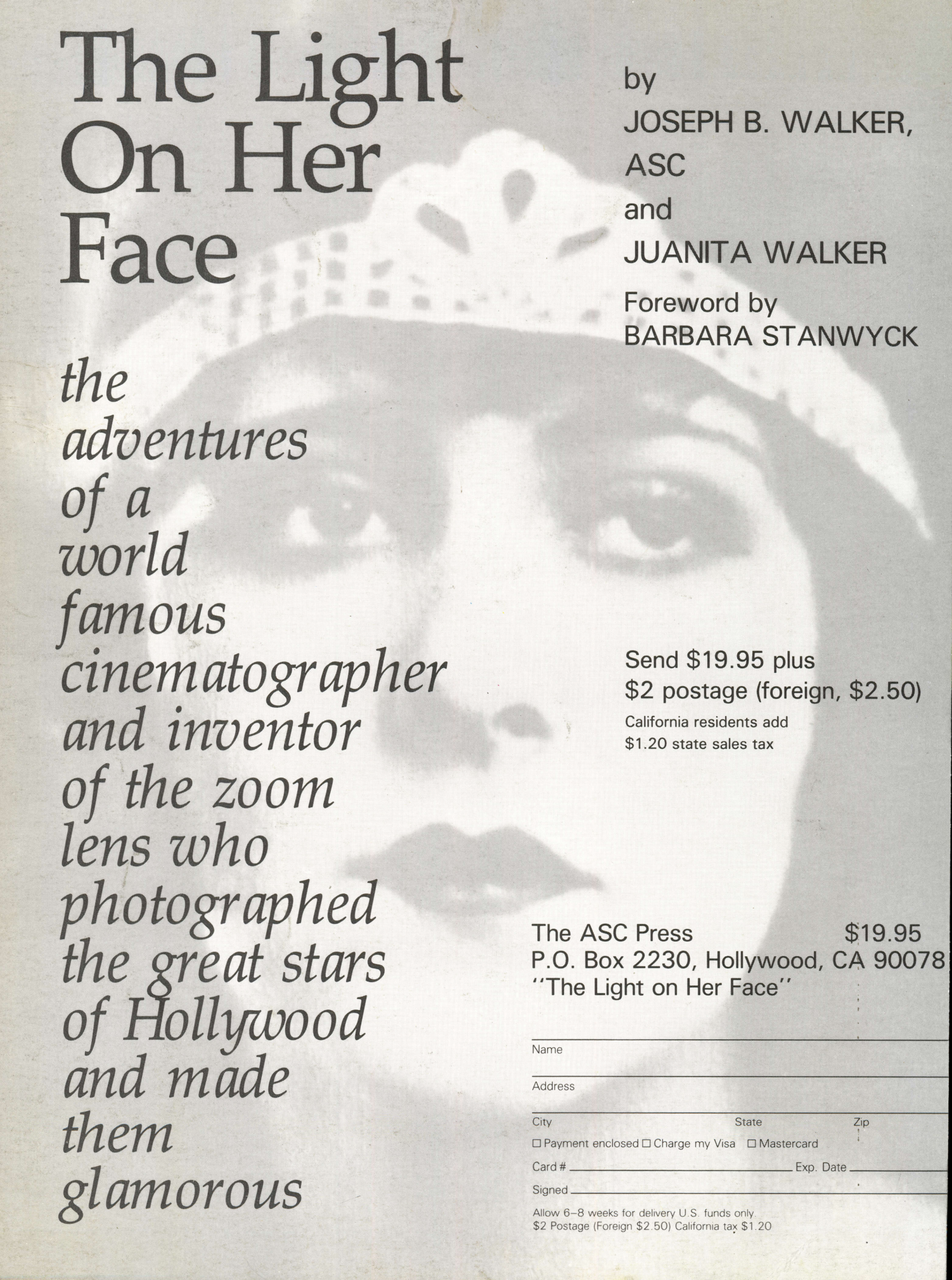

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